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This bibliography is a survey of generally available recent studies and commentaries dealing with graduate education covering the 4-year period 1957-60. It also includes many earlier publications of exceptional interest and importance. The six sections of the publication deal with (1) the history and nature of graduate education; (2) organization, administration, and support; (3) graduate programs; (4) the graduate student, (5) the graduate faculty and faculty scholarship and research; and (6) directories and bibliographies.

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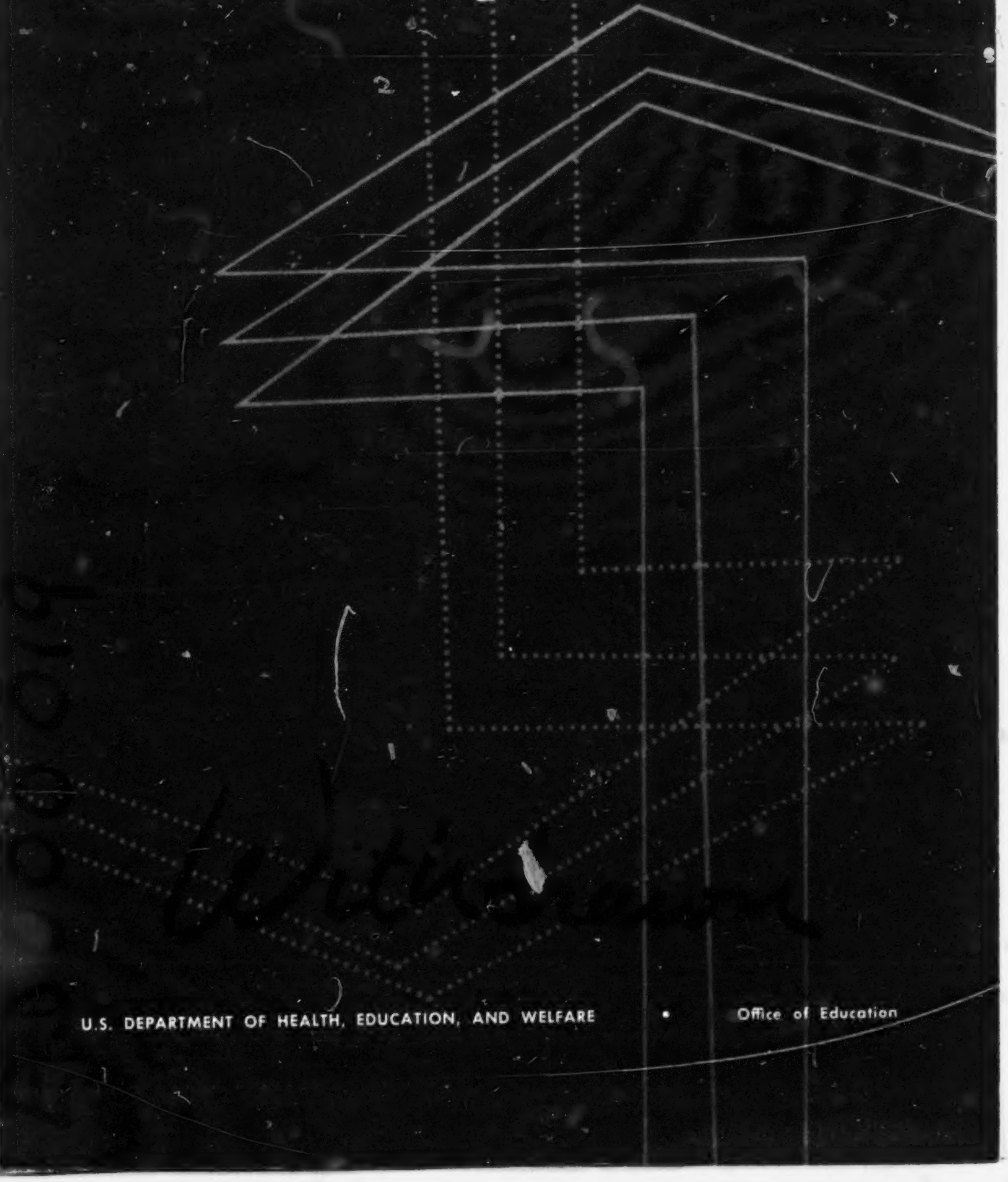
GRADUATE EDUCATION

An Annotated Bibliography



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GRADUATE EDUCATION

An Annotated Bibliography

Prepared by
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Division of Higher Education

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
ABRAHAM A. RIBICOFF, *Secretary*
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Foreword

THE PEOPLE of the United States have in recent years become deeply conscious of the crucial importance of national excellence in science and scholarship. They have learned to value the work of the Nation's graduate schools in preparing scholars and scientists, in carrying on basic and applied research, and in supplying faculty for the Nation's schools and colleges. Through their State and Federal governments, as well as through cooperative private endeavors, they have formulated comprehensive plans and increased their material support for the strengthening of advanced graduate study. The recent expansion of Federal graduate fellowship programs may be taken as evidence of a growing national willingness to take the necessary steps —including larger appropriations— for the further support of the Nation's graduate schools.

The present is thus an opportune moment to take stock: to look at what graduate education has been and what it is becoming, and to develop a more precise understanding of what needs to be done. The U.S. Office of Education has felt particularly obliged to be clear about graduate school needs and trends, not only because education *per se* is its special concern, but also because the National Defense Education Act of 1958 has placed upon it specific responsibilities in the field of graduate education.

In studying graduate education, one of our first concerns has been to summarize and analyze current thinking about it. This bibliography is a first step in the careful stock-taking which the Division of Higher Education has embarked upon, and should be useful to others who are interested in the future course of graduate education.

HOMER D. BABBIDGE, JR.,
Assistant Commissioner for Higher Education

HAROLD A. HASWELL,
Director, Higher Education Programs Branch,
Division of Higher Education.

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GRADUATE EDUCATION

An Annotated Bibliography

THIS BIBLIOGRAPHY is a survey of generally available recent studies and commentaries dealing with graduate education. *It covers the 4-year period, 1957–60;* but it also includes many earlier publications of exceptional interest and importance. It includes general studies of the various aspects of graduate education in the arts, sciences, and professions; *it does not include studies limited to graduate education in single academic or professional fields.* The test for inclusion of an item has been its relevance to the great range of interests of deans of graduate schools, of graduate faculties and students, and of governmental and private agencies intimately concerned with graduate study and research. Hopefully, this test has been applied with sufficient tolerance to serve all readers well, yet with sufficient selectivity to save them from unproductive quests in irrelevant writings.

Only published works are listed, including some mimeographed or multilithed monographs, but drafts of work in progress are not. Book reviews, reprints (but not revised editions) of pre-1957 publications, and most brief summaries or preliminary reports of published studies have been omitted. Condensations, adaptations, and republications of articles are listed in combination with the original and annotated as a single item. Serial articles and recurring publications are usually also treated as a single item.

Certain substantative exclusions should be mentioned. Publications dealing with "higher education" in general have been presumed irrelevant until they prove to deal also with matters touching interests at the graduate level. Studies of professional education at the pregraduate level, in particular those pertaining to schools of dentistry, medicine, veterinary medicine, pharmacy, and law, have also been excluded. Studies of college teachers and college teaching are not included unless they pertain specifically to graduate or university faculties or to matters, such as faculty scholarship and sabbaticals, which are of special importance to graduate faculty members. Of course, discussions of preparation for college teaching are included, as are studies of college teacher supply and demand and writings dealing with early or apprentice college teaching. Except for a few tangential items, works having to do with academic freedom have been excluded. The same may be said for studies of libraries and librarians. Finally, although the bibliography includes studies of the American graduate student abroad and of international educational exchange programs, it does not include studies of foreign universities.

Annotations

As far as possible, each author has been identified by his title or position at the time of publication. This information may sometimes help to indicate the importance of an entry. Doctoral dissertations are annotated on the basis of the published abstracts, and their authors are not identified by position. Extensive bibliographies are noted in the annotations, except those in doctoral dissertations.

As far as possible, books are annotated as a whole, with specific reference to relevant sections where such analysis is necessary. A few books of composite content and authorship have been annotated both *in toto* and in appropriate parts. Books of diverse contents, such as conference reports or annual proceedings, are usually listed only in their relevant parts. Each item is listed only once, under the heading which seemed most appropriate to it. However, most items are pertinent to more than one category, so that it has been necessary to add a number of cross-references at the end of each section.

Index

An index to the names of authors, editors, committee chairmen, contributors, and all other individuals named in titles or annotations is provided. This index also lists organizations, agencies, and committees mentioned as authors or sponsors. Finally, it includes several topical headings, which will serve as supplements to the bibliography's divisions and subdivisions.

I. History and Nature of Graduate Education

1. History and Memorabilia

1. BATES, RALPH S. *Scientific Societies in the United States.* Second edition. New York: Technology Press and Columbia University Press, 1958. 297 p. (*Author:* Professor of History and Government, Massachusetts State Teachers College at Bridgewater.)

Discusses the history and influence of the scientific societies in the United States. This second edition has been augmented by the addition of chapter 6, "The Atomic Age, 1945-55." The other chapters are: (1) Scientific Societies in Eighteenth Century America; (2) National Growth, 1800-1865; (3) The Triumph of Specialization, 1866-1918; (4) American Scientific Societies and World Science, 1919-1944; and (5) The Increase and Diffusion of Knowledge. Bibliography: 43 pages.

2. BEAN, MARY V. *Development of the Ph.D. Program in the United States in the Nineteenth Century.* Doctoral dissertation (Ph.D.). Columbus: The Ohio State University, 1953. 344 p.; Abstract in *Dissertation Abstracts* 18, No. 4:1325-28, April 1958.

"This study includes the European background from which the American Ph.D. program developed; an historical account of the exploratory period in the United States from 1800 to 1875; and the period of standardization in the United States from 1876 to 1900." Five institutions were selected for study (Yale, Harvard, Cornell, Michigan, and Johns Hopkins) because "each represented a different type of leadership."

3. BESTOR, ARTHUR. The American University: A Historical Interpretation of Current Issues. *College and University* 32:175-88, winter 1957. (*Author:* Professor of History, University of Illinois.)

A critical survey of the development of the modern university curriculum, particularly of vocationalism and the free-elective system—"two unfortunate consequences . . . [of the] bitter nineteenth-century war between the sciences and the classics."

4. BROOKS, ROBERT P. *The University of Georgia Under Sixteen Administrations, 1785–1955.* Athens: University of Georgia Press, 1956. 260 p. (*Author:* Professor of Economics and Dean of Faculties, Emeritus, the University.)

"My interest has been concentrated on financial problems, the growth of the enrollment, and changes in the curriculum."

5. BRUBACHER, JOHN S., *and* RUDY, WILLIS. *Higher Education in Transition, An American History: 1636–1956.* New York: Harper and Brothers, 1958. 494 p. (*Authors:* (1) Hallek Professor of the History and Philosophy of Education, Yale University; (2) Associate Professor of History, State Teachers College, Worcester, Mass.)

Focuses primarily upon undergraduate education, but discusses the origins of graduate education in Part III: The Rise of Universities in Nineteenth-Century America.

6. CARRON, MALCOLM. *The Contract Colleges of Cornell University: A Cooperative Educational Enterprise.* Ithaca, N. Y.: Cornell University Press, 1958. 186 p. (*Author:* Assistant Professor of Education and Assistant Dean of the College of Arts and Sciences, University of Detroit.)

"Briefly, the problem involved in the investigation was to answer four questions: (1) how and under what circumstances did the first State Colleges at Cornell University arise? (2) how did the Cornell-state relationship respecting these colleges develop after the foundation of the first college? (3) what is the nature of the contract college? (4) what is the legal relationship of the University to the state of New York?" Primarily a historical study.

7. Columbia University. Faculty of Philosophy. *A History of the Faculty of Philosophy, Columbia University.* New York: Columbia University Press, 1957. 308 p.

Contains 13 chapters, 12 of which are histories of each of the departments of the Faculty of Philosophy, written by department faculty members. The first chapter (p. 3-57) is a history of the Faculty as a whole and of its relationships with the other Graduate Faculties and with Teachers College and Union Theological Seminary. This is written by Professor John Herman Randall, Jr., of the Department of Philosophy.

8. Cordasco, Francesco G. M. *Daniel Coit Gilman and the Protean Ph.D.: The Shaping of American Graduate Education.* New York: Stechert-Hafner, Inc., 31 East 10th St., N. Y. 3, 1960. 160 p.

Not examined.

9. ———. *The Role of Daniel Coit Gilman in American Graduate Education.* Doctoral dissertation (Ed.D.). New York: New York University, 1959. 293 p.; Abstract in *Dissertation Abstracts* 20, No. 4:1254, October 1959.

Aims "to place Daniel Coit Gilman (1831–1908) in the historical framework of the development of graduate education in the United States." Studies his activities at Yale, the University of California, and Johns Hopkins. Concludes that "Johns Hopkins University fulfilled a half-century of American graduate aspiration; essentially it was the culmination of a long, indigenous educational evolution. If the German *Wissenschaftslehre* . . . had any influence on Gilman and his Hopkins, it was mainly subordinate to native impulses."

10. Cowley, W. H. College and University Teaching, 1858–1958. In Russell M. Cooper, *The Two Ends of the Log: Learning and Teaching in Today's College.* Minneapolis: University of Minnesota Press, 1958. p. 101-24; Same, condensed. *Educational Record* 39:311–26, October 1958. (*Author:* Professor of Higher Education, Stanford University.)

Reviews developments in college and university education since 1858. "Somehow these three functions—general education, specialized education, and research—must be operationally blended better than they are at present. How? This in my judgment is the axial question now facing American higher education." Concludes by suggesting how these three functions can be reconciled and can enrich one another.

11. Craig, Hardin. *Woodrow Wilson at Princeton.* Norman: University of Oklahoma Press, 1960. 175 p.

A biography, the purpose of which is "to identify and explain Woodrow Wilson's opinions and principles in the field of university education."

12. Eddy, Edward D., Jr. *Colleges for Our Land and Time: The Land-Grant Idea in American Education.* New York: Harper and Brothers, 1956. 328 p. (*Author:* Vice President and Provost, University of New Hampshire.)

". . . the story of how a system of higher education that was clearly inadequate to the needs of its society acquired a drastic redirection that was indigenous to America, of the movements and events that led up to the change, and of the results that flow from it down to the contemporary period. . . ." Nine chapters: (1) The Background, (2) The Foundation Stone, 1862, (3) The Struggle, 1863–1879, (4) The Idea Takes Shape, 1880–1889, (5) Form and Substance, 1900–1914, (6) The Response of Crisis, 1915-1937, (7) Maturity, 1938–1956, (8) The Negro Land-Grant Colleges, (9) Some Philosophy and Some Conclusions. Bibliography: p. 302–17.

13. Eells, Walter C. Honorary Ph.D.'s in the 20th Century. *School and Society* 85:74-75, Mar. 2, 1957. (Author: Retired Professor of Education.)

Traces decline of the practice of awarding honorary Ph.D.'s from the 1890's until its cessation in 1938.

14. Geiger, Louis G. *University of the Northern Plains: A History of the University of North Dakota, 1883–1958.* Grand Forks: University of North Dakota Press, 1958. 491 p. (*Author:* Professor of History, University of North Dakota.)

In three sections: (1) Grand Forks University, 1883-1899; (2) The State University, 1899–1945; (3) The New University, 1945–1958.

15. Gray, James. *Open Wide the Door: The Story of the University of Minnesota.* New York: G. P. Putnam's Sons, 1958. 256 p. (*Author:* Author

and former Professor of English, University of Minnesota.)

An account of the development of the University of Minnesota. Separate chapters devoted to each successive presidency. Focus upon principal problems, events, and personalities. Discussions of the Graduate School on pp. 93-97, 180-83, 244-47. Chapter 9 (p. 200-48) emphasizes the development of research under President Morrill.

16. HAVIGHURST, WALTER. *The Miami Years: 1809–1959.* New York: G. P. Putnam's Sons, 1958. 254 p. (*Author:* Professor, Miami University.)

A history of Miami University, Oxford, Ohio, from its beginnings in 1809.

17. HAWKINS, HUGH. *Pioneer: A History of the Johns Hopkins University, 1874–1889.* Ithaca, N. Y.: Cornell University Press, 1960. 368 p. (*Author:* Assistant Professor, Department of American Studies, Amherst College.)

An account of the establishment of Johns Hopkins University, the building of its departments in its early years, and its early practices and problems. Stresses "the inner life of the university" rather than its external relations or its impact on other institutions.

18. HOFSTADTER, RICHARD, *and* METZGER, WALTER P. *The Development of Academic Freedom in the United States.* New York: Columbia University Press, 1955. 527 p. (*Authors:* Both Professors, Department of History, Columbia University.)

First volume of the Columbia University Academic Freedom Project. A history of academic freedom from the founding of the first college to the recent past. In two parts, Part One, by Hofstadter, dealing with the American college down to the period just after the Civil War, and Part Two, by Metzger, dealing with the age of the university. Chapter 8, The German Influence (p. 367-412), is an account of the development of academic research and the concepts of *Lehrfreiheit* and *Lernfreiheit* in Germany, and their adoption and modification in the United States. (For the second volume, by R. M. MacIver, *see* No. 842.)

19. HORTON, BYRNE J. *The Graduate School: Its Origin and Administrative Development.* New York: New York University Bookstore, 1940. 182 p. (*Author:* Instructor, New York University.)

Eight chapters: (1) Introduction, (2) Origin, Development, and Meaning of the University Idea, (3) Origin and Development of Higher Education in the United States and Influences Affecting the Same (1636–1876), (4) Origin and Development of Johns Hopkins University, (5) The History of the Graduate School and the Development of Its Administration Since 1880, (6) The Official Workshop of the Graduate School—The Seminar, (7) Administrators of the Graduate Schools and the Major Problems, (8) Summary and Conclusion.

20. HOTCHKISS, EUGENE, 3D. *Jacob Gould Schurman and the Cornell Tradition: A Study of Jacob Gould Schurman, Scholar and Educator, and His Administration of Cornell University, 1892–1920.* Doctoral dissertation (Ph.D.). Ithaca, N. Y.: Cornell University, 1960. 374 p.; Abstract in *Dissertation Abstracts* 21, No. 1:106, July 1960.

"The uniqueness of Cornell, gained largely from the circumstances of its founding, combined with Schurman's leadership, not only produced the transition from a small college to a large university and cemented the progress of earlier administrations, but also provided Cornell with a philosophy based upon its own heritage and Schurman's ideal."

21. HOXIE, R. GORDON, *and others. A History of the Faculty of Political Science, Columbia University.* New York: Columbia University Press, 1955. 326 p. (*Author:* Dean of C. W. Post College, Brookville, Long Island.)

"This book tells the story of a pioneer movement in education; of the beginnings of advanced instruction in the political and social sciences, and of the creation of a university." Part I (p. 1-144) is a general history of the Faculty, by R. Gordon Hoxie; Part II consists of six chapters, each an historical account of an individual department, written by people intimately associated with the departments.

22. JOHN, WALTON C. *Graduate Study in Universities and Colleges in the United States.* U.S. Office of Education Bulletin 1934, No. 20. Washington: U.S. Government Printing Office, 1935. 234 p. (*Author:* Senior Specialist in Higher Education, U.S. Office of Education.)

An omnibus survey of graduate education, based principally upon abstracts of university catalogs and statistical reports of the U.S. Office of Education. "This study aims to give essential facts regarding the development, general control, and administration of graduate work, including the principal standards, requirements, and practices that relate to the granting of degrees on the graduate level." Eight chapters: (1) The Development of Graduate Study; (2) The Development of Standards and Practices; (3) Objectives and Scope; (4) Administration, including a section on the graduate school faculty; (5) The Educational Articulation of the Graduate Unit; (6) Requirements for the Master's Degree; (7) Requirements for the Doctor's Degree, including graduate doctor's degrees in education, law, medical fields, commercial science, and other professions; (8) Concluding Observations.

23. KUHN, MADISON. *Michigan State: The First Hundred Years, 1855-1955.* East Lansing: Michigan State University Press, 1955. xi, 501 p. (*Author:* Professor of History, Michigan State University.)

24. MEIGS, CORNELIA L. *What Makes a College? A History of Bryn Mawr.* New York: The Macmillan Company, 1956. 277 p. (*Author:* Professor Emeritus, Bryn Mawr College, Pennsylvania.)

25. MITCHELL, J. PEARCE. *Stanford University, 1916–1941.* Stanford, California: Stanford University Press, 1958. 167 p. (*Author:* Registrar of the University, 1925–1945.)

A summary of developments during Stanford's second 25 years. Fourteen chapters, including chapters on finance and support, the president and the faculty, distribution and admission of students, academic organization and policies, the schools, etc. Touches on graduate study throughout.

26. NEWCOMER, MABEL. *A Century of Higher Education for American Women.* New York: Harper and Brothers, 1959. 266 p. (*Author:* Emeritus Professor of Economics, Vassar College.)

A study of the development of women's college education over the 120 years of its existence, with emphasis upon the older women's colleges. Chapter 10, Scholars and Artists (p. 189-209), discusses women scholars in comparison with men and the performance of women's colleges in producing scholars between 1900 and 1950.

27. OKKELBERG, PETER O. The Horace H. Rackham School of Graduate Studies. In *The University of Michigan: An Encyclopedic Survey.* Edited by Wilfred B. Shaw *and others.* 9 vols. Ann Arbor: University of Michigan Press, 1941–58. Vol. VI, 1952. p. 1037–51. (*Author:* Professor of Zoology and Associate Dean, Horace H. Rackham School of Graduate Studies, University of Michigan.)

A history of the development of graduate study at the University of Michigan from the earliest record of a postgraduate degree in 1845 through 1940. Other volumes of this *Survey* contain histories of specific departments and professional schools.

28. PIERSON, GEORGE W. *Yale: College and University, 1871–1937.* Vol. 2: *Yale: The University College, 1921–1937.* New Haven, Conn.: Yale University Press, 1955. xviii, 740 p. (*Author:* Professor of History, Yale University.)

Second volume published on the occasion of Yale's 250th anniversary. Traces the history of Yale during the presidency of James Rowland Angell. Three themes marked the evolution of this period: the development of Yale as a university; a shift in governing power; and "an astonishing resurgence of vitality."

29. PLOCHMANN, GEORGE K. *The Ordeal of Southern Illinois University.* Carbondale: Southern Illinois University Press, 1959. xxi, 662 p. (*Author:* Associate Professor of Philosophy, Southern Illinois University.)

A detailed account of the development of the University and of its administration, faculty, curriculum, departments, schools (including the Graduate School), and students.

30. POWER, EDWARD J. *A History of Catholic Higher Education in the United States.* Milwaukee, Wis.: Bruce Publishing Co., 1958. xiii, 383 p. (*Author:* Professor of Education, University of Detroit.)

"It is the purpose of this book . . . to examine the origins and trace the developments of Catholic higher education . . . . In the interest of building stronger institutions of higher education, it seems desirable that there be a general understanding of the origin, growth, and evaluation of these social and intellectual agencies." Appendixes give lists of all colleges for men and for women, both extinct or still in existence as 4-year colleges or universities. Bibliography: 300 titles.

31. Ross, Earle D. *The Land-Grant Idea at Iowa State College: A Centennial Trial Balance, 1858–1958.* Ames: Iowa State College Press, 1958. 310 p. (*Author:* Professor of History, Iowa State College.)

32. Ryan, W. Carson. *Studies in Early Graduate Education.* Bulletin No. 30. New York: The Carnegie Foundation for the Advancement of Teaching, 1939. 167 p. (*Author:* Staff Associate, the Foundation.)

A discussion of the beginnings of three of the earliest institutions offering graduate instruction, Johns Hopkins University, Clark University, and the University of Chicago, with an analysis of various elements in each situation and a suggestion of some of the factors that appear to be significant in bringing about the admitted successes that were achieved. Bibliography: 58 titles, annotated.

33. Sack, Saul. *A History of Higher Education in Pennsylvania*, Doctoral dissertation (Ph.D.). Philadelphia: University of Pennsylvania, 1959. 1197 p.; Abstract in *Dissertation Abstracts* 20, No. 1:195, July 1959.

Organized in 28 chapters, including separate chapters on the University of Pennsylvania, theological education, medical education and allied fields, legal education, scientific and technical education, the education of teachers, graduate education, and the administration of higher education.

34. Schmidt, George P. *The Liberal Arts College: A Chapter in American Cultural History.* New Brunswick, N. J.: Rutgers University Press, 1957. 310 p. (*Author:* Professor of History and Political Science, Douglass College, Rutgers University.)

"This book . . . is the story of the liberal arts college. The first six chapters depict the age of the old-time college when that institution dominated the educational scene and dispensed the classical tradition from dignified halls of ivy on scores of campuses. . . ." The latter six chapters deal with the transition from the single-purpose classical college to the complex university and the attempt of the liberal arts college to maintain its identity.

35. Smith, Thomas V. Chicago: An Excerpt. *Graduate Journal* 3:49–60, spring 1960. (*Author:* Professor of Philosophy Emeritus, Syracuse University.)

Reminiscences of graduate study and early teaching at the University of Chicago in the 1920's: an excerpt from the author's autobiography.

36. Storr, Richard J. *The Beginnings of Graduate Education in America.* Chicago: University of Chicago Press, 1953. ix, 195 p. (*Author:* Assistant Professor of History, University of Chicago.)

Discusses graduate education in the United States before the Civil War. Several of the topics considered are German influences, the expansion of learning, reform in the East and West, and the early traditions of graduate education. Bibliography: 343 titles.

37. Thackrey, Russel I., *and* Richter, Jay. The Land-Grant Colleges and Universities, 1862–1962: An American Institution. *Higher Education* 16:3–8, 20, November 1959. (*Authors:* (1) Executive Secretary-Treasurer; (2) Director of the Centennial Office, both of the American Association of Land-Grant Colleges and State Universities.)

Describes the origins and legislative history of the land-grant system, reviews the record of performance, and delineates the areas of special responsibility being stressed by the centennial planning group.

38. Thwing, Charles F. *The American and the German University: One Hundred Years of History.* New York: The Macmillan Co., 1928. 238 p. (*Author:* President Emeritus, Western Reserve University.)

"The purpose of this volume is to discover, and to measure, the worth of the contributions made by the German university, in the last hundred years, to the higher education in the United States." Examines in detail the experiences and influence of American students who studied in Germany and of German teachers in American universities during the 19th century. Analyzes German university organization, methods, excellences and defects, and traces their impact upon American institutions.

39. Wilson, Louis R. *The University of North Carolina, 1900–1930: The Making of a Modern University.* Chapel

Hill, N. C.: The University of North Carolina Press, 1957. xxi, 633 p. (*Author:* Former Librarian, University of North Carolina.)

The purpose of the volume is to present the history of the University of North Carolina in its "transition from the status of a college, concerned primarily with teaching at the undergraduate level, to the status of a modern university . . . devoted to study at the graduate and professional levels; [and] to the discovery of new knowledge through experimentation and research . . . ."

40. WRISTON, HENRY M. *Academic Procession: Reflections of a College President.* New York: Columbia University Press, 1959. 222 p. (*Author:* President Emeritus, Brown University.)

A narrative account of the author's memorable experiences of nearly 50 years living and working among students, including his employment as assistant to a college president while an undergraduate student and his administration of two college presidencies. He describes many of his personal experiences, such as the establishment of the Institute of Paper Chemistry at Lawrence College and the development of the Applied Mathematics Department at Brown University. He discusses the nature and functions of, and relates anecdotes pertaining to, trustees, faculty, administration, students, alumni, and the public.

See also Nos. 43, 44, 49, 50, 72, 74, 76, 89, 332, 333, 355, 356, 438, 532, 547, 833, 859.

2. Nature and Purposes

41. Are Graduate Schools Slighting a Major Function? *Carnegie Corporation Quarterly* 8, No. 1:1-3, January 1960.

Summarizes Earl J. McGrath's argument in *The Graduate School and the Decline of Liberal Education* (No. 59). A statement of dissent from McGrath's position by Edmund S. Morgan (Professor of History, Yale University), and a reply to Morgan in support of McGrath by Harry J. Carman (Professor Emeritus of History, Columbia University) appear in a supplement to *Carnegie Corporation Quarterly* 8, No. 2, April 1960.

42. ATWOOD, SANFORD S. Graduate Education and Research. *Graduate Journal* 2, Supplement: 151-65, 1959. (*Author:* Provost, Cornell University.)

Broad-ranging commentary upon the nature and problems of doctoral education. Believes that graduate education is an apprenticeship relationship in which the student engages in a new process, namely, "to think through things that have not been completely thought through before." Believes that the duty of a graduate teacher is to duplicate his kind through graduate training and by fostering the qualities of research and scholarship throughout the undergraduate years. Argues against setting residence requirements for the Ph.D., or purging doctoral work of its "uncertainties." Advocates distinguishing professional doctor's degrees from the Ph.D.

43. BERELSON, BERNARD. *Graduate Education in the United States.* New York: McGraw-Hill Book Co., 1960. 346 p. (*Author:* Director, Bureau of Applied Social Research, Columbia University.)

A major study of the history and present nature of graduate education, and of graduate institutions, students, and programs. Based upon extensive personal interviews, several independent studies of catalogs, bibliographies, and journals, elaborate and wide-ranging questionnaire polls of opinion, and analyses of all available data. Organized in three parts: (1) The Past, (2) The Present, (3) Conclusions, Commentary, and Recommendations. Part Two deals with the college teacher problem; the problem of professionalization; quantitative and qualitative growth and changes among graduate institutions; administration and organization; the origins, social background, motivation, quality, preparation, recruitment, and support of graduate students; and all aspects of doctor's and master's degree programs. Part Three presents 21 "realistic" proposals for reform. Bibliography, p. 265-70.

44. ———. The Studies of Graduate Education. In *Proceedings of the Midwest Conference on Graduate Study and Research.* 14th Annual Meeting, 1958. p. 34-48; Same, condensed. *Graduate Journal* 1:155-67, fall 1958. (*Author:* Professor of Behavioral Science, University of Chicago, and Director of the Study of Graduate Education.)

A historical review of the literature on graduate education reveals five phases of development. At present, ten major criticisms are being made, but the problems and issues of graduate education have remained remarkably consistent over the past 50 years. Although the issues have not been resolved, the debates have been useful because of " . . . the operation of the academic pendulum. If the pendulum swings too far in one direction, the advocates of the opposing point of view seek to reverse the direction or at least retard the rate of movement.... Viewed in this way, the debate, however repetitive, becomes a positive and constructive force in containing the tension within the system and in working toward delicately balanced periods of equilibrium."

45. ———. What Should Be the Direction of Graduate Education? In Association for Higher Education, *Current Issues in Higher Education, 1959.* Edited by G. Kerry Smith. Washington: National Education Association, 1959. p. 150–54. (*Author:* See above.)

Discusses four problems in graduate education and assesses their future prospects: (1) Reform of graduate education for the benefit of college teaching; (2) wider national distribution of graduate study; (3) the trend toward professionalization of graduate study and the extension of graduate degrees in professional schools; (4) the reinstatement of the master's degree as a scholarly degree sufficient for the preparation of college teachers.

46. **Blanshard, Brand,** *ed. Education in the Age of Science.* New York: Basic Books, Inc., 1959. 302 p. (*Author:* Professor of Philosophy, Yale University.)

Consists of eight papers presented in pairs at four symposia in June 1958, with discussions following each pair. Topics and authors: (1) What Is Education, by Sidney Hook and George N. Shuster; (2) Education and the American Scene, by Arthur Bestor and John L. Childs, on whether our schools are failing in their intellectual task; (3) Education and the World Scene, by Reinhold Niebuhr and Hans J. Morgenthau, on preparing students for citizenship in the modern world; and (4) Science and the Humanities, by Douglas Bush and Ernst Nagel, on the relative place and importance of these two parts of education. Five other essays are appended: The Crisis in Science Education, by Philippe LeCorbeiller; The Gap Between the Scientists and the Others, by Margaret Mead; Science Teaching, by Warren Weaver and Fletcher G. Watson; The College Professor, by David Riesman; and The Aims of Education, by Alfred North Whitehead. Occasionally touches specifically upon graduate education.

47. **Bowman, Isaiah.** *The Graduate School in American Democracy.* U.S. Office of Education Bulletin 1939, No. 10. Washington: U.S. Government Printing Office, 1939. 70 p. (*Author:* President, The Johns Hopkins University.)

Discusses the purposes of the graduate school, the psychology of learning and its implications for graduate study, the influence of social pressures and social responsibility upon the graduate school, and criteria for judging the effectiveness of graduate education in individual institutions.

48. **Conant, James B.** *The Citadel of Learning.* New Haven, Conn.: Yale University Press, 1956. 79 p. (*Author:* Ambassador to the Federal Republic of Germany.)

Three essays. The first, The Citadel of Learning, contrasts the freedom of inquiry in Western universities with the loss of freedom in universities which have undergone sovietization. The second, An Old Tradition in a New World, compares American and European educational systems and discusses modifications in the American system which seem called for by present-day international conditions. The third, Some Basic Problems of American Education, argues the necessity of combining research, scholarship, and advanced education under university aegis, and discusses the problems in accomplishing this in the face of the attractions of nonuniversity research and of the changing composition of college student bodies.

49. **Cowley, W. H.** Three Curricular Conflicts. *Liberal Education* 46:467–83, December 1960. (*Author:* Professor of Higher Education, Stanford University.)

Discusses the conflicts between (1) general and special education, (2) the humanities and the sciences, and (3) teaching and research. Reviews the historical development of these dichotomies, discusses each in turn, and argues that present responsibility for each of the conflicts and for the resolution of each lies with the graduate schools.

50. **De Vane, William C.** *The American University in the Twentieth Century.* Baton Rouge: Louisiana State University Press, 1957. 72 p. (*Author:* Professor of English and Dean of Yale College.)

Four lectures delivered at Tulane University in March 1956, dealing with the historical development and present place of the university in society and with the place of the college in the university. The lectures are entitled (1) The University—Its Scope and Function, (2) The College, (3) The Liberating Studies, and (4) The University and the National Culture.

51. **Edwards, Marcia.** *Studies in American Graduate Education.* New York: Carnegie Foundation for the Advancement of Teaching, 1944. 71 p. (*Author:* Assistant Dean, School of Education, University of Minnesota.)

Sets forth the results of three studies of selected graduate schools. The first compares the success of students entering from colleges that are accredited by the Association of American Universities with those entering from other colleges. The second, a check upon the first, analyzes the credit records of 12,467 students in six major graduate schools. Both find little difference between the two groups of entrants in the caliber of their graduate course work. The third and major study, based on organized personal interviews with officials, faculty, and students of 11 major graduate schools during the years 1937–39, probes the major problems of procedures, requirements, support, standards, student-faculty relations, and the like.

52. **Elvehjem, Conrad A.** Graduate Work—A Thirty-Five Year Experience. In *Proceedings of the Midwest Conference on Graduate Study and Research.* 15th Annual Meeting, 1959. p. 49–52. (*Author:* President, University of Wisconsin.)

Precepts for the conduct of graduate education drawn from the author's experience as student, teacher, department chairman, dean of the graduate school, and president.

53. **Flexner, Abraham.** *Universities: American, English, German.* New York: Oxford University Press, 1930. 381 p. (*Author:* Director, Institute for Advanced Study, Princeton, New Jersey.)

After setting forth, in Part I, his idea of a modern university as a place for the pursuit of science and scholarship and for nothing besides (i.e., "neither secondary, technical, vocational, nor popular education"), proceeds to examine in turn, in Parts II, III, and IV, the characteristics of American, English, and German universities. The section on American universities (p. 39-218) is a wide-ranging and detailed attack upon "service" programs, vocational schools and courses, and other educational and financial incubi.

54. **Foster, Laurence.** *The Functions of a Graduate School in a Democratic Society.* New York: Huxley House Publishers, 1936. 166 p. (*Author:* General Editor, Huxley House Publishers.)

In seven chapters. Chapter 1 defines the function of the graduate school. Chapter 2 attempts to determine the order of eminence of the major graduate schools by ranking them according to a variety of measurements and arriving at a weighted comprehensive list of standings. Chapter 3 suggests six ways to improve the Nation's facilities for graduate education through cooperative arrangements and discusses specific possibilities for a number of States and urban areas. Chapter 4 discusses curriculum, particularly the desirability of integrating graduate-school instruction with work of graduate caliber in professional schools and of establishing postdoctoral centers or institutes for cooperative research. Chapter 5 makes several recommendations for more efficient use of eminent scholars by means of cooperative student and faculty arrangements. Chapter 6 urges greater selectivity in admission and retention of graduate students. Chapter 7 sums up.

55. **Frankel, Charles,** *ed. Issues in University Education: Essays by Ten American Scholars.* New York: Harper and Brothers, 1959. 175 p. (*Author:* Professor of Philosophy, Columbia University.)

An interpretation of the American system of higher education by ten American scholars who have participated in the regional conferences of visiting senior Fulbright and American scholars convened by the Conference Board of Associated Research Councils for the purpose of exploring the meaning of the American experience in higher education. "The questions that have been raised by the authors of this volume . . . reflect three fundamental and persistent issues. . . . The first is the problem of harmonizing the disparate traditions out of which American higher education springs and of domesticating them within a mobile and democratic society. The second is the problem of finding the sort of moral and financial support for American scholarship that will permit it to maintain its freedom and standards. The third is the problem of establishing a sound relationship between a technologically oriented culture and the institutions and ideals of pure science and disinterested inquiry."

56. **Henry, David D.** Encouraging Research and Graduate Work. *School and Society* 86:107–08, March 1, 1958. (*Author:* President, University of Illinois.)

Excerpt from President's report on "The State of the University," November 1957. Emphasizes the special role of the University of Illinois in providing college teachers and research workers and in carrying on basic research itself.

57. Jones, Howard Mumford. *American Humanism: Its Meaning for World Survival.* New York: Harper and Brothers, 1957. 108 p. (*Author:* Professor of English, Harvard University.)

A study of the character of American humanism. Deplores humanism's deterioration into expertise and its dethronement as the principal aim of learning. Discusses the graduate school and the departmental system as major contributors to "the decline of humanism and the fractation of knowledge."

58. Lawler, Justus G. *The Catholic Dimension in Higher Education.* Westminster, Md.: The Newman Press, 1959. 302 p. (*Author:* Professor of Humanities, St. Xavier College, Chicago.)

A critique, in five chapters, of Catholic higher education, particularly of the implicit theoretical foundations of the Catholic intellectual life. "In every case, the critique has set itself against an educational doctrine of exclusivism and neo-medievalism, and it is these two doctrines, in the various forms they have assumed, which the remainder of this essay will continue to analyze: for they represent, I submit, the basic source of weakness in Catholic higher learning." Chapter 5 discusses the mission of Catholic scholarship and the Catholic university.

59. McGrath, Earl J. *The Graduate School and the Decline of Liberal Education.* New York: Institute of Higher Education, Teachers College, Columbia University, 1959. 65 p. (*Author:* Executive Officer, the Institute.)

The graduate schools "deny society the services which the colleges ought to perform by transforming them from institutions for general education into agencies for the initial vocational education of scholars. They produce college teachers prepared not primarily for their chosen work but rather for research activities of a limited character. Through the control of the political machinery in the academic community they determine the policies governing promotions and salaries. By their arrogation of the authority to define the conditions of professional advancement in terms of research and publication they divert the energies of college teachers from their proper employments." (p. 25)

60. Smith, Thomas V. Domain of Graduate Study. With summary of panel discussion following. In University of Pittsburgh, *New Dimensions of Learning in a Free Society.* Pittsburgh, Pa.: University of Pittsburgh Press, 1958. p. 48–62; Same. *Graduate Journal* 2:20-33, spring 1959. (*Author:* Professor of Philosophy Emeritus, Syracuse University.)

"The nearer the periphery of knowledge we operate—and this means the more authentically our work is of graduate character—the more necessary it becomes to pick men who can go it alone. Lucky such recruits if they get taught by men who themselves have gone it alone." Advances four maxims for graduate study and instruction: give full play to the creative subconscious mind; trust the imagination; give leeway to judgment; and "go it alone."

61. Wilson, Logan. Emergent Challenges: The State University of the Future. *Graduate Journal* 2, Supplement: 177–92, 1959. (*Author:* President, University of Texas.)

"First, we need to look at the state university as a social institution and get a broad perspective of its structure and functions. Second, we must understand the social forces in its development and the most critical factors in its present circumstances.... Our third procedure is to extrapolate or project the dimensions of the state university of the future." Believes that state universities are likely to become centers for advanced study and research in their respective States, some even becoming regional centers, and that the greatest expansion and development will occur in the graduate division and professional schools.

62. Wilson, O. Meredith. The University and Public Service. *Graduate Journal* 2, Supplement: 166–76, 1959. (*Author:* President, University of Oregon.)

"The dependent professional schools are the university's instruments of public service. They fire at life point-blank. But their magazines are filled, for the firing, with ammunition provided by the garrison in the central city." Believes that now "the university can perform its greatest possible public service by manning its central city, the sciences and humanities, with the wisest, freest minds it can find."

63. Woodrow Wilson Foundation. *Education in the Nation's Service.* New

York: Frederick A. Praeger, 1960. 193 p.

A collection of eight essays written for the Foundation as part of its continuing program "to explore Wilsonian ideas and ideals in the light of present-day conditions." Contributors include Archibald MacLeish, McGeorge Bundy, Robert F. Goheen, Logan Wilson, Harry D. Gideonese, Jacques Barzun, John Hersey, and William Lee Miller. "An Atmosphere to Breathe: Woodrow Wilson and the Life of the American University College" by Bundy (p. 15-46) includes a discussion of graduate education in the light of Wilson's image of the university. The other essays do not deal specifically with graduate work.

See also Nos. 10, 22, 74, 92, 95, 96, 98, 101, 111, 208, 216, 472, 517, 540, 565, 711, 859, 867.

II. Organization, Administration, and Support

1. General Studies

64. AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE. 1958 Parliament of Science. *Science* 127:852–58, Apr. 18, 1958.

Reports conclusions and recommendations arrived at by a representative group of over 100 American scientists and public leaders meeting in Washington, D. C., on March 15-17, 1958, "to consider current and pressing problems of the support of science and the improvement of education." Sets forth terms of reference and general principles agreed upon by the Parliament as a whole, and presents reports and recommendations of the five discussion sections devoted to the following specific topics: (1) The Support of Science, (2) Organization and Administration of Science in Government, (3) Communication Among Scientists and Communication of Scientific Ideas, (4) The Selection, Guidance, and Assistance of Students, (5) The Improvement of Teaching and Education.

65. AMERICAN ASSOCIATION OF LAND-GRANT COLLEGES AND STATE UNIVERSITIES. COUNCIL ON GRADUATE WORK. Report of Proceedings. In *Proceedings of the Association.* 71st Annual Convention, 1957. p. 273-83.

Includes abstracts of the following reports. The Use of Tests in the Evaluation of Applicants for Graduate Study; Seminar Practices; Enrollment Trends in Graduate Schools of Land-Grant Colleges and State Universities; Graduate Assistant Stipends; Government Aid to Education; Who's in Charge Here, the Graduate School or Accrediting Associations; The Relation of Graduate Studies to College Contract Programs; and Graduate School Communications.

66. ———. Report of Proceedings. In *Proceedings of the Association.* 72d Annual Convention, 1958. p. 252–68.

Includes abstracts of reports on the following: The N.S.F. Academic Year Institute: Problems of Admission; Enrollment Trends in Graduate Schools of Land-Grant Colleges and State Universities; Graduate Assistant Stipends in Land-Grant Colleges and State Universities; What Restrictions, If Any, Shall We Place on the Admission of Foreign Students?; Joint Research Project on Problems of Land-Grant Colleges and State Universities; Federal Government Aid to Education; and Veterinary Medicine.

67. ———. Report of Proceedings. In *Proceedings of the Association.* 73d Annual Convention, 1959. p. 204–26.

Includes abstracts of these reports: National Science Foundation Fellowship Programs; The National Institutes of Health; Atomic energy Commission Fellowship Program; National Defense Fellowships; Evaluation of Programs and the Selective Process; The Universities and the Movement for Peace; Graduate Programs for the School Administrator; Graduate Program Developments for Wisconsin Teachers; Enrollment Trends; Graduate Assistant Stipends; Foreign Student Problems; Speeding Up the Ph.D.; and Speed-Up of Ph.D. Programs.

68. AMERICAN COUNCIL ON EDUCATION. COMMISSION ON INSTRUCTION AND EVALUATION. *Faculty-Administration Relationships.* Report of a Work Conference, May 7–9, 1957, Sponsored by the Commission. Edited by Frank C. Abbott. Washington: The Council, 1958. 88 p.

Addresses on and selections from a general discussion of the sources of friction in faculty-administration relationships and what to do about such friction. In two parts. Part one, *Nature and Sources of Faculty-Administration Tensions,* includes the following addresses: A President's Perspective, by Logan Wilson (President, University of Texas); A Faculty View, by Loren C. Petry (Professor Emeritus, Cornell); and also includes comments by Ralph Fuchs (General Secretary, American Association of University Professors), Alan K. Campbell (Associate Professor of Political Science, Hofstra College), W. Max Wise (Professor, Teachers College, Columbia), and Richard H. Sullivan (President, Reed College). Part two, *Experience in Related Fields—Parallels and Differences*, includes remarks on the following topics: Insights from the Behavioral Sciences, by Ralph W. Tyler (Director, Center for Advanced Study in the Behavioral Sciences); Insights from Industrial Organization and Relations, by H. J. Heneman (Partner, Cresap, McCormick, and Paget); Insights from Labor Relations, by Ralph N. Campbell (Professor of Industrial and Labor Relations, Cornell); Insights from Public Administration, by York Willbern (Director, Bureau of Public Administration, University of Alabama).

69. ———. OFFICE OF STATISTICAL INFORMATION AND RESEARCH. *A Fact Book on Higher Education.* Washington: The Council, beginning 1959.

A looseleaf book of charts, diagrams, and tables containing a wide range of statistics collected from a variety of sources. Contained 237 items in November 1960, covering enrollments, populations, finances and support, student costs, degrees conferred (including analyses by fields since 1947), student migration, faculties and administration. Additional pages are issued from time to time, and out-of-date ones replaced.

70. ATWOOD, R. B. The Future of the Negro Land-Grant College. *Journal of Negro Education* 27:381–91, summer 1958. (*Author:* President, Kentucky State College.)

Discusses the trend toward centralizing land-grant instruction in a single institution, especially in those states in which some integration is occurring in the land-grant instructional program. Finds that in most states, and particularly at the graduate level, the enrollment in land-grant subjects is too small to warrant offering a full curriculum at two institutions.

71. AXT, RICHARD G. *Research on Graduate Education.* Report of a conference held at the Brookings Institution on February 27, 1959. Washington, D. C.: The Institution, 722 Jackson Place, NW, 1959. 108 p. (*Author:* Associate Director of the Western Interstate Commission for Higher Education.)

An organized condensation and summarization of a conference of university presidents, graduate deans and other officers, Government officials, and representatives of educational foundations and associations. The purpose of this conference was to discuss informally what kinds of information about graduate education were most needed, and how and by whom this information could best be obtained. The report is organized in seven chapters: (1) Introduction; (2) current data-collection and census-type data needed; (3) institutional costs of graduate education and its capacity for expansion; (4) graduate study and the graduate student; (5) impact of Federal and private programs of financial support; (6) estimating future needs for manpower, new programs, expansion, and financing; (7) what research should be done next and by whom. Appendix lists major statistical surveys and reports on graduate education since 1954. Bibliography: 37 items.

72. BEREDAY, GEORGE Z. F., *and* LAUWERYS, JOSEPH A., *joint eds. Higher Education: The Year Book of Education, 1959.* Prepared under the auspices of The University of London Institute of Education and Teachers College, Columbia University. Yonkers-on-Hudson, N. Y.: World Book Co., 1959. 520 p. (*Authors:* (1) Faculty member, Teachers College; (2) faculty member, University of London Institute of Education.)

Contains an introduction by the editors and 34 chapters of diverse authorship, organized in five sections, concerning higher education as a whole in various nations. Section titles: (1) Adaptation of University Traditions, 10 chapters; (2) The Present Position of Professional Studies in Higher Education, 5 chapters; (3) Problems of Control, Finance, and Organization, 7 chapters; (4) Academic Freedom, 6 chapters; (5) Relations Between Institutions of Higher Learning and Other Institutions, 6 chapters. Noteworthy chapters: The Historical Background to Higher Education in the U.S., by I. L. Kandel (p. 108-121); The Contemporary Academic Scene in the U.S., by Robert Ulich (p. 122-30); American Universities and Liberal Education, by John S. Brubacher (p. 131-41); Formulation of Policy in American Colleges and Universities, concerning particularly the role of the faculty, by R. Freeman Butts (p. 246–63); The Finance of Higher Education, by Thad L. Hungate (p. 312-28); and Academic Freedom and the Universities in the U.S.A., by H. Gordon Hullfish (p. 367–85).

73. BLACKWELL, THOMAS E., *and others, eds. College and University Business Administration.* 2 vols. Compiled by the National Committee on the Preparation of a Manual on College and University Business Administration. Washington: American Council

on Education. Vol. I, 1952. 217 p.; vol. II, 1955. 267 p. (*Author:* Vice-Chancellor and Treasurer, Washington University, St. Louis.)

"The general purpose . . . is to provide information and guidance in those areas of management in institutions of higher education in which business administration is primarily concerned." Volume I "includes chapters on the principles of college and university accounting, budgets and budgetary accounting, financial reports, audits, and the allocation of indirect expenditures and determination of costs. It includes also a detailed bibliography covering the entire field of college and university business administration through August 1951." Volume II "covers those fields of business management and administration not included in volume I in which the chief business officer and his associates appear to have primary responsibility [including a chapter on sponsored research administration]." It includes also an extensive supplementary bibliography, covering material published since 1951.

74. BROGDEN, WILFRED JOHN; HERRIOTT, J. HOMER; *and* ELVEHJEM, CONRAD A. *Fifty Years of Graduate Education at the University of Wisconsin.* Madison: Wisconsin Alumni Research Foundation, 1954. 68 p. (*Authors:* (1) Associate Dean; (2) Associate Dean; (3) Dean, the Graduate School, University of Wisconsin.)

A picture-and-text review of graduate education at the University of Wisconsin, commemorating the 50th anniversary of the establishment of the Graduate School.

75. BROWN, AARON. Graduate and Professional Education in Negro Institutions. *Journal of Negro Education* 27:233–42, summer 1958. (*Author:* Project Director, Phelps-Stokes Fund.)

A survey of scope, enrollments, accreditation status, faculties, laboratory and library facilities, financial support, degrees awarded, fields of study, and current problems.

76. CARMICHAEL, OLIVER C. *Universities: Commonwealth and American. A Comparative Study.* New York: Harper and Brothers, 1959. 390 p. (*Author:* Former President, Carnegie Foundation for the Advancement of Teaching.)

A comparative study of various aspects of university education in the United States, the United Kingdom, Australia, New Zealand, Canada, India, Pakistan, and the Union of South Africa. "The object has been to identify characteristic features, to compare and to contrast developments in British universities and in their offspring in the Commonwealth countries and the United States." Includes chapters on historical backgrounds, the nature and aims of higher education, organization, financing, student life, women and higher education, professional education (theology, law, medicine, teaching, science and technology), extension studies, and problems and prospects.

77. CAVANAUGH, JAMES. Academic Administration: Its Place in the Sun. *American Association of University Professors Bulletin* 43:630–34, December 1957. (*Author:* Instructor in General Business, Michigan State University.)

Advances ten propositions defining the place of administration and the place of the faculty in university organization, all deriving from the concept that "administration, after all, is merely ancillary to the main activity of education. . . ."

78. CHAMBERS, M. M. *The Campus and the People: Organization, Support and Control of Higher Education in the United States in the Nineteen Sixties.* Danville, Ill.: The Interstate Printers and Publishers, Inc. 1960. 75 p. (*Author:* Faculty member, Center for the Study of Higher Education, University of Michigan.)

A collection of 10 essays published in periodicals during 1959 and 1960. "They deal almost exclusively with matters of policy relating to the organization of higher education and the support and control of universities and colleges." The second essay, "Old Siwash and the Monster Universities," points out the uniqueness of graduate universities and the fiscal implications of this uniqueness. The sixth essay, "Freedom for State Universities: Campus and Capital," argues the importance of university autonomy.

79. COMMITTEE ON GOVERNMENT AND HIGHER EDUCATION. Milton S. Eisenhower, chairman. *The Efficiency of Freedom.* Baltimore: The Johns Hopkins Press, 1959. 44 p.

Comments, conclusions, and recommendations of the Committee after a 2-year study of the changing relationship between State governments and public institutions of higher education. Three chapters: (1) The Tradition of

Freedom, defining the relationships that should properly exist between public officials and State institutions of higher education; (2) The Growth of State Control, identifying areas in which State control over higher education has exceeded proper limits; (3) Avenues of Freedom, suggesting remedial lines of action both for academic officials and for State governments. (See also the separate report of the Committee's research staff, No. 91.)

80. **Corson, John J.** *Governance of Colleges and Universities.* New York: McGraw-Hill Book Co., 1960. 209 p. (*Author:* Management consultant and several-time educator.)

"The wide variety of decisions made in the operation of a university or college [or school or department] can be classified in six broad categories: educational and research program; student affairs; faculty affairs; external relations, i.e., alumni, legislative, and general public relations; finance (current and capital); and physical development. . . . This exploratory study is concerned with the manner in which the responsibility for making decisions in each of these six categories is distributed, and how the efforts of all—trustees, administrators, faculty, and staff—are mobilized in the progressive operation of the whole institution." Includes discussion of the roles of deans of graduate and professional schools.

81. **Elvehjem, Conrad A.** What Proportion of the Total Institutional Program Will Be Allocated to Research? In Association for Higher Education, *Current Issues in Higher Education, 1957.* Edited by G. Kerry Smith. Washington: National Education Association, 1957. p. 140–43. (*Author:* Dean of the Graduate School, University of Wisconsin.)

Analyzes problems in establishing formulae for the proportion of institutional programs to be devoted to research. Concludes that no set formula can be devised, that any calculation must be based upon the peculiar values and practices of individual institutions or sectors of institutions.

82. **Gardner, John W.** The University in Our Civilization. *Educational Record* 41:5–10, January 1960. (*Author:* President of the Carnegie Corporation of New York.)

Points out three kinds of university involvement in practical affairs, and discusses three examples of involvement demanding continuing institutional responsibility. Since national demand for university services cannot be evaded, the universities should take stock of their own priorities and abilities so that they can respond wisely rather than haphazardly to this demand.

83. **Glenny, Lyman A.** *Autonomy of Public Colleges: The Challenge of Coordination.* New York: McGraw-Hill Book Co., Inc., 1959. 325 p.; Portion of *Introduction* and complete *Conclusions* preprinted in *School and Society* 87:319–22, June 20, 1959. (*Author:* Associate Professor of Government, Sacramento State College, California.)

One report of a series of investigations being conducted by the Center for the Study of Higher Education of the University of California at Berkeley, under the general title, The Diversification of American Higher Education. The subject of this study is the statewide coordination of higher education as a means of providing, with reasonable economy and efficiency, a pattern of educational institutions and programs commensurate with the characteristics and needs of students and the requirements of the commonwealth. The following functions of agencies of several States are discussed: planning and policy making, function and program allocation, budgeting institutional operations, and budgeting capital-outlay projects.

84. **Knowles, Asa S.** Emerging Features of Tomorrow's Higher Education. *Educational Record* 38:329–39, October 1957. (*Author:* President, University of Toledo.)

Sketches 13 changes now occurring in the complexion of higher education, including the following: Certain eminent universities will become centers of advanced education, having only a limited number of undergraduate enrollments; a new definition of educational functions will evolve—service to the community in the form of research or special teaching on a contract basis; graduate and professional education will become regional in scope and service.

85. **Litchfield, Edward H.** New Dimensions of Learning in a Free Society and a Program for the University of Pittsburgh. In University of Pittsburgh, *New Dimensions of Learning in a Free Society.* Pittsburgh, Pa.: University of Pittsburgh Press, 1958. p. 273–89. (*Author:* Chancellor, University of Pittsburgh.)

Inaugural address. Outlines five functions of a great university in contemporary society, enumerates its sixfold clientele, and proposes nine ways in which the University of Pittsburgh can perform these functions better and thus render greater service to its clientele.

86. ———. Organization in Large American Universities: (1) The Faculties; (2) The Administration. *Journal of Higher Education* 30:353–64, 489–504, October and December 1959. (*Author: See* above.)

While in theory we regard our universities as organic wholes, they have become in practice a congeries of independent schools and faculties. The difficulty in achieving institutional cohesiveness may be found in answering two questions: whether (1) our faculty structures and (2) our concepts of administrative function and organization "frustrate the realization of a unified institution." About faculties, the author believes that greater cross-fertilization should be achieved across departmental boundaries, between graduate and undergraduate levels, and between the academic disciplines and the professional schools, and that academic departments should remain free of domination by professional interests. About administration, the author discusses nine fundamental inadequacies in current administrative practice which hinder university administrations in undertaking "the university-wide role which is required of them in achieving anything approaching an organic institution."

87. ———. *The Role of the Academic Disciplines in a Modern University.* Pittsburgh, Pa.: The Chancellor's Office, University of Pittsburgh, 1958. 14 p. (*Author: See* above).

Proposes five postulates "as a basis for achieving some kind of integrated functioning, some synthesis, for a great university." Argues primarily that the academic disciplines "must be regarded as a principal integrating element within the total university structure." Describes the place and organization of the University of Pittsburgh's newly established College of the Academic Disciplines. Announces a gift of $12 million from the A. W. Mellon Educational and Charitable Trust endowing 10 distinguished professorships, 50 predoctoral fellowships, and from 6 to 9 postdoctoral fellowships in the College.

88. ———. The University: A Congeries or an Organic Whole? *American Association of University Professors Bulletin* 45:374-79, September 1959. (*Author: See* above.)

Discusses the causes (historical, organizational, and administrative) and consequences of "our ignoring the concept of the university as a group of specialized programs integrally and organically related to one another."

89. Little, J. Kenneth. Graduate Education. In *Encyclopedia of Educational Research.* Edited by Chester W. H. Harris for The American Educational Research Association. New York: The Macmillan Co., 1960. p. 593–602. (*Author:* Professor of Education, University of Wisconsin.)

A survey of graduate education, including the history, organization, and scope of the graduate school, graduate programs and students, research, and a concluding section on issues in graduate education. Finds two major current issues: the problem of adequate preparation of college teachers, and the concern over the growing imbalance between activities in the field of science, engineering, and technology, and activities in the humanities and social studies. Bibliography: 21 titles.

90. McGee, Reece J. The State University: A Prolegomenon. *Graduate Journal* 2:223–38, fall 1959. (*Author:* Assistant Professor of Sociology, University of Texas.)

Expounds a series of propositions as to what the State university should be and do. In its function of *disseminating* knowledge, it should be a center of resources for graduate education in a State, should be selective in its admissions to its undergraduate college, and should not waste its resources on public services which distract it from its central service of advanced education and research. In its function of *creating* knowledge, it should be the one center of research among State-supported institutions and should adopt policies calculated to attract and retrain those faculty members who are most capable in performing research. In its function of *conserving* knowledge, it should build a faculty of the highest quality and make of its library the major research collection in the State.

91. Moos, Malcolm, *and others. The Campus and the State.* Baltimore: The Johns Hopkins Press, 1959. 414 p. (*Author:* Professor of Political Science, The Johns Hopkins University, and Director of the Staff of the Committee on Government and Higher Education.)

A study of the impact of State administrative controls upon the management of State colleges and universities, based upon an extensive questionnaire, personal letter, and interview survey of State and university officials, and covering all State-supported institutions offering bachelor's or advanced degrees. Argues that "the goal of efficiency in higher education can be realized without non-educational officials intervening in the fiscal affairs of colleges and universities." Bibliography, p 377–406.

92. MORRILL, JAMES L. *The Ongoing State University.* Minneapolis: University of Minnesota Press, 1960. 143 p. (*Author:* President, University of Minnesota.)

"This volume brings together many of my own [speeches]—an editorial selection and adaptation of things thought and said during the fifteen years of my participation in the ongoing of a productive institution, the University of Minnesota." The 12 chapters include discussions of the role and genius of the land-grant and State university, the growth and function of the University of Minnesota, the organization and administration of American universities, academic freedom and responsibility, and the question of the danger to institutional autonomy of Federal investment in higher education.

93. NATIONAL EDUCATION ASSOCIATION. EDUCATIONAL POLICIES COMMISSION. Herman B. Wells, chairman. *Higher Education in a Decade of Decision.* Washington: The Association, 1957. 152 p.

A survey of the major problems of policy facing American higher education in the liberal arts and sciences. Focuses primarily upon undergraduate education, but includes subchapters dealing with problems of research (p. 63–70), recruitment and preparation of college teachers (p. 86–94), and interinstitutional cooperation and coordination (p. 109–18).

94. NATIONAL SCIENCE FOUNDATION. *Graduate Student Enrollment and Support in American Universities and Colleges, 1954.* NSF 57–17. Washington: U. S. Government Printing Office, 1957. 302 p.

Reports results of a questionnaire survey of department chairmen in the sciences, engineering, psychology and the social sciences, education, humanities, and selected professional fields. Data received for four-fifths of nation's graduate students in fields surveyed in academic year 1953–54. "This report provides for the first time information on the proportion of graduate students with teaching assistantships, research assistantships, and fellowships from educational institutions, the Federal Government, and other sources; the median size of their stipends; and the estimated total sum spent on these stipends during the academic year 1953–54. Also, for the first time in most fields, information is presented on the composition of the graduate student body, including breakdowns by sex, full- or part-time study, first or more advanced years of study, relative numbers of resident and special students, average size of graduate departments, and geographic distribution of students by field of study." Extensive tabulation of results, including analyses of data for each department. Separate chapter deals with foreign students in the United States and American students in foreign countries.

95. NIELSON, OSWALD, *ed. University Administration in Practice: Lectures Presented Before the Seminar for Business Administrators of Privately Supported Japanese Universities.* Stanford, Calif.: Stanford University School of Business, 1959. 168 p. (*Author:* Professor of Accounting, Graduate School of Business, Stanford University.)

A collection of papers presenting viewpoints about American university administration. The volume consists of six parts: I, Organization and General Administration; II, Gifts and Research Grants; III, Budgets and Finance; IV, Activities of Personnel and Business Offices; V, Student Fees; VI, The Ideals of Higher Education. Originally these papers were lectures given at a seminar held at the Stanford Graduate School of Business during the summer of 1957 for business administrators of privately supported Japanese universities.

96. ROGERS, FRANCIS M. *Higher Education in the United States: A Summary View.* Third edition, revised. Cambridge, Mass.: Harvard University Press, 1960. 72 p. (*Author:* Professor of Romance Languages and Literature, Harvard University.)

A description of the broad features of higher education in the United States, intended primarily for foreign readers. Contains chapters on the organization of an American university, the basic philosophy of higher education, preparation and recruitment of college teachers and other personnel matters, the financing of higher education, professional training, the university library and scholarly resources, interuniversity organization, and international student exchange and the foreign student in American universities.

97. STEWART, MORRIS A. The Organization of the Graduate School. *Journal*

of Higher Education 30:136–40, March 1959. (*Author:* Dean of the Graduate Division, University of California, Berkeley.)

Argues that all graduate studies, except in law and medicine, should be located in a single graduate school under a single graduate dean and council (or equivalent faculty committee), and that there should be no formal distinction between graduate and undergraduate faculties. Goes on to discuss the relative places of departmental faculties and the graduate dean within such an organizational framework. In general, the powers of the graduate dean "should be commensurate with his broad responsibilities so that he will be, in fact, the dean of the graduate students and not merely a glorified clerk or an exalted policeman."

98. UNIVERSITY OF PITTSBURGH. *New Dimensions of Learning in a Free Society.* Pittsburgh, Pa.: University of Pittsburgh Press, 1958. 289 p.

Seminar addresses, public lectures, and inaugural address delivered on the occasion of the inauguration of Edward H. Litchfield, twelfth Chancellor of the University of Pittsburgh. Seminar addresses, with summaries of panel discussions following, deal with the three disciplines (humanities, natural science, and social sciences), the graduate school, education for the professions (business, teacher education, communications, engineering, law, retailing, and social work), and education for the health professions (dentistry, medicine, nursing, pharmacy, public health). The addresses on the social sciences and the graduate school and Chancellor Litchfield's inaugural address are annotated separately (*see* Nos. 60, 85, 406).

99. WEAVER, JOHN C. *Some Dilemmas in Graduate Education.* A Report to the Carnegie Corporation of New York on a Travelling Fellowship, 1957–58. Lincoln: University of Nebraska Graduate College, 1958. 69 p. (Processed.) (*Author:* Dean of the Graduate College, University of Nebraska.)

A summation of impressions of graduate education based on personal visits to 18 universities in the United States and 2 in Canada. "Obviously this is not a definitive exposition of what I have chosen to describe as the dilemmas of graduate education. Rather, I have elected to make this an informal statement, (almost a conversation piece) of the thinking, the attitudes, the hopes and despairs of university administrators and faculty members." Chapters are devoted to discussion of the graduate faculty, off-campus graduate education work in the medical sciences, sponsored research (its rise and influence, and the problem of supplementary staff remuneration), and "Other Problems" (the master's degree, training of college teachers, the academic health of the social sciences and humanities, and the effects of the national fellowship programs).

100. WHALEY, W. GORDON, *and* BURDINE, J. ALTON. Petition Relating to the Graduate Program at the University of Texas. Formulated in consultation with the All-University Research Council and the Graduate Council of the University. With a letter of endorsement by Logan Wilson, President of the University, and remarks to the faculty by Dean Whaley. *Graduate Journal* 1:17–27, spring 1958. (*Authors:* (1) Dean; (2) Associate Dean, Graduate School, University of Texas.)

Proposals for administrative action and a petition for material support by the Board of Regents in a program designed to improve scholarship and enhance the academic standing of the Graduate School. Proposals include increasing salaries to attract top-level scholars and visiting professors, freedom and support for research, provision of facilities for research and publication, fellowship support, and elimination of non-essential and undergraduate-level course offerings. For a follow-up report on the program, which was approved by the Board of Regents, *see* "The Dean's Report" (*Graduate Journal* 2:94–95 and *passim*, fall 1958).

101. WILSON, O. MEREDITH. The Next Problem of Articulation: The Undergraduate College and the Professional and Graduate Schools. With report of discussion. *Educational Record* 39:124–30, April 1958. (*Author:* President, University of Oregon.)

Believes that smooth-working articulation depends upon agreement between undergraduate and professional and graduate faculties as to the nature and purposes of these two segments of university education, upon a distinction between undergraduate and graduate level courses derived from this understanding, upon a conjunction between students' aspirations on the one hand and the purposes of faculties and curriculums on the other, upon a judicious mixture of the cultural and the professional-preparatory elements in the undergraduate institution, and upon a meshing of the cogwheel of professional education with the cogwheel of professional practice.

102. WOODBURNE, LLOYD S. *Principles*

of College and University Administration. Stanford, Calif.: Stanford University Press, 1958. 197 p. (*Author:* Dean, College of Arts and Sciences, University of Washington.)

A comprehensive and penetrating analysis of all areas of university administration. Chapter headings: (1) University Organization; (2) Physical Plant and Budgetary Control; (3) College or School Administration; (4) Faculty Personnel Administration; (5) Procedures on Tenure and Promotion; (6) Curriculum and Teaching; (7) Departmental Administration; (8) Nonacademic Personnel; (9) Educational Priorities and Operational Research; (10) Research Work and the Graduate School; (11) Dean of Students Office; (12) Summer Session and Adult Education. Bibliography: 25 titles.

See also Nos. 6, 37, 40, 43, 45, 52, 175, 206, 419, 497, 520, 572, 589, 823, 824, 835, 851, 853, 870.

2. Institutional Self-Studies

103. AXT, RICHARD G., *and* SPRAGUE, HALL T., eds. *College Self Study: Lectures on Institutional Research Given at Stanford University, July 19–25, 1959.* Boulder, Colo.: Western Interstate Commission for Higher Education, 1960. 300 p., and appendixes. (*Authors:* Both staff members of WICHE.)

A compilation of 19 lectures, usually with a "how-to-do-it" emphasis, on the major areas of institutional research, delivered at a workshop for college and university officials held at Stanford University. Contributors are W. H. Cowley, James I. Doi, Robert J. Evans, John K. Folger, Paul A. Heist, Raymond W. Kettler, J. Kenneth Little, Donald MacRae, T. R. McConnell, John B. Morris, John Dale Russell, Donovan E. Smith, John E. Stecklein, and Sidney G. Tickton. Subjects dealt with are the background, purpose, and organization of institutional research; studies of student characteristics and enrollment projections; studies of and for the faculty; budgetary analysis and budget projection; analyses of class size, teaching load, and instructional costs; space utilization and campus planning; and the work of the Center for the Study of Higher Education, Berkeley, Calif. Bibliography in eight parts: p. 265–99.

104. BRUMBAUGH, AARON J. *Research Designed To Improve Institutions of Higher Learning.* Washington: American Council on Education, 1960. 47 p. (*Author:* Educational consultant.)

A general survey of the need for and the organization, conduct, and effects of institutional self-studies. Does not deal specifically with graduate education.

105. ——— *and* COLLINS, MORRIS, W. H., JR. University of Georgia Self-Study. *Higher Education* 15:97–103, February 1959. (*Authors:* (1) Director; (2) Associate Director of University of Georgia Self-Study.)

A summary of the background, procedures, findings and recommendations of the University of Georgia self-study (*see* No. 106).

106. ——— *and* ———. *University of Georgia Study: Final Report.* Athens, Ga.: The University, 1958. 609 p. and appendixes (Processed.) (*Authors: See* above.)

"This final report of the Study is, in a measure, a synthesis of the separate reports prepared by the schools, colleges, and divisions; by the faculty and staff task forces; by the consultants; and by the alumni study committees." In 11 sections: (1) Enrollments Projections, (2) Economic Resource Development of Georgia, (3) Institutional Objectives, (4) Instruction (especially Subsection D: "Graduate Instructional Programs," p. 57–74), (5) Faculty and Staff, (6) Students (especially Subsection G: "Recruitment of Well-Qualified Graduate Students," p. 293–304), (7) Research, (8) Educational Service Programs, (9) Organization and Administration (especially Subsection B, 2: "Organization and Administration of the Graduate School," p. 507–14), (10) Physical Facilities, (11) Finance.

107. COLUMBIA UNIVERSITY. PRESIDENT'S COMMITTEE ON THE EDUCATIONAL FUTURE OF THE UNIVERSITY. *The Educational Future of Columbia University.* New York: Columbia University Press, 1957. 282 p.

A comprehensive survey of the postwar growth of Columbia University and a consideration of her educational objectives for the coming years. The Committee investigated every part of the corporate university, with the exception of financial matters. See especially Part 4, dealing with nonprofessional graduate programs (p. 89–120); the sections of Part 5 which discuss graduate study in the professions (p. 121–178); the first section of Part 7, which discusses the faculty (p. 201–218); and Part 8, Adjuncts of Instruction and Research (p. 235–272).

108. CRONKHITE, BERNICE B., Chairman. Committee on Graduate Education for Women, Radcliffe College. *Graduate Education for Women: The Radcliffe Ph.D.* Cambridge, Mass.: Harvard University Press, 1956. 135 p. (*Author:* Dean of the Radcliffe Graduate School of Arts and Sciences.)

Surveys the background and present practices and problems of doctoral education at Radcliffe. Based on a questionnaire sent in 1951 to holders of the Radcliffe Ph.D., supplemented by data from official records, interviews, and information supplied by other institutions. "This survey confirms the belief that graduate study for women has a sure and increasingly important place in our society." Includes a long chapter on the Ph.D. and marriage.

109. ELDER, J. P. *A Criticism of the Graduate School of Arts and Sciences in Harvard University and Radcliffe College.* Cambridge, Mass.: Harvard University Graduate School, 1958. 48 p. (*Author:* Dean of the Graduate School, Harvard University.)

A report and interpretation of the results of a questionnaire survey of Harvard and Radcliffe doctoral graduates of the years 1950–54. The questionnaire aimed "at finding out what is now required in our graduate training here which seems to you needless, what is *not* required which you think ought to be, what factors (outside of military service) contribute to the long time commonly spent between the A.B. and the Ph.D., and what should be done to improve the *quality* of our graduate instruction."

110. FLORIDA STATE UNIVERSITY. OFFICE OF EDUCATIONAL RESEARCH AND SERVICE. *A Study of Florida State University Doctoral Graduates and Their Reactions to the Doctoral Program at the University.* Tallahassee: The University, 1957. 107 p. (Processed.)

Tables and commentary reporting results of a questionnaire survey of the University's first 125 doctoral graduates (1952–57). Findings reported in six sections: (1) Personal data; (2) employment status and salary, before and after doctoral studies; (3) reactions to the experiences of graduate work; (4) evaluation of the various parts of doctoral education; (5) adequacy and appropriateness of preparation for college teaching (based on replies of graduates engaged in college or university work); and (6) summary and conclusions.

111. KENISTON, HAYWARD. *Graduate Study and Research in the Arts and Sciences at the University of Pennsylvania.* Philadelphia: University of Pennsylvania Press, 1959. 150 p. (*Author:* Dean Emeritus of the College of Literature, Science, and Arts, University of Michigan.)

Primarily a study of the structure, practices, and problems of the Graduate School of Arts and Sciences of the University of Pennsylvania (Part II). Introduced by an extensive parallel study of the American graduate school in general (Part I). An appendix (p. 115–50) presents the results of a survey of department chairmen in 25 leading universities concerning the standing of American graduate schools and departments in the arts and sciences.

112. MCHENRY, DEAN E. *The University of Nevada: An Appraisal, The Report of the University Survey.* Nevada Legislative Counsel Bureau Bulletin No. 28. Carson City, Nev.: State Printing Office, 1957. 291 p. (*Author:* Director of the Survey.)

A candid appraisal in 17 chapters of all major aspects of the University, including graduate work, administration and organization, the departments, the faculty, interstate cooperation, finances and costs, the professional colleges, and other matters.

113. NELSON, J. H. *A Survey of the University of New Mexico, Albuquerque, New Mexico.* Albuquerque: The University, 1958. 49 p. (*Author:* Dean of the Graduate School, University of Kansas.)

A survey of the educational objectives and curriculums, resources, organization, teaching conditions, student life, scholarship, and cultural influence of the University of New Mexico. Includes sections on graduate work, research, and faculty scholarship.

114. ROSENHAUPT, HANS. *Graduate Students: Experience at Columbia University, 1940–1956.* New York: Columbia University Press, 1958. 129 p. (*Author:* Graduate Admissions Director, Columbia University.)

A study of the origins and graduate careers of students registered in the Graduate Faculties of Political Science, Philosophy, and Pure Science of Columbia University between 1940 and 1956. Based on IBM tabulation of data from the registrar's records concerning year and place of birth, sex, military status, undergraduate college and date of undergraduate degree, date of entrance to the graduate faculties, department, point loads during first 5 years, type and date of graduate degree, and on a survey of fellowships held by students during 1956–57. Focuses of study: colleges of origin and areas of birth; age patterns and patterns of registration (course-load, departments, persistence); financial support; length of time for completion of Ph.D.'s; and patterns of experience and objective in earning master's degrees.

115. Southern Regional Education Board. *Improving Graduate Education: A Guide to Institutional Self-Evaluation.* Atlanta: Board of Control for Southern Regional Education, 1951. 117 p.

Suggestions for carrying through institutional self-evaluation in five parts: (1) Organizing the institution for self-evaluation; (2) describing programs and resources of departments; (3) studying products and contributions of departments; (4) evaluating departments and program units; (5) evaluation at the institutional level. Includes examples of possible questionnaires to be used in such a study.

116. Stickler, W. Hugh. *Institutional Research Concerning Land-Grant Institutions and State Universities.* Washington: American Association of Land-Grant Colleges and State Universities and the State Universities Association, 1959. 142 p. (*Author:* Director of Educational Research and Service, Florida State University.)

Report of an investigation of the extent and character of institutional research in or concerning member institutions of the American Association of Land-Grant Colleges and State Universities and the State Universities Association. Contains eight appendixes. The following are of particular interest: (Appendix A) selected publications based on research concerning land-grant institutions and State universities, January 1954–July 1959; (D) representative institutional research studies, January 1958–July 1959; (E) representative institutional research studies done by graduate students, January 1958–July 1959; and (F) representative research studies done by or for State Boards of Higher Education, January 1958–July 1959.

117. Stoddard, George D., *and others. The New York University Self-Study: Final Report.* New York: New York University Press, 1956. 286 p., and 419 p. in appendix. (*Author:* Dean, School of Education, New York University.)

A study of the entire University as a single entity. Includes a detailed description of the New York University community area as well as detailed information pertaining to its present graduate programs in arts and science and the professions.

118. Syracuse University. Maxwell Graduate School of Citizenship and Public Affairs. *The Doctor of Social Science Program at Syracuse University: A Thirteen-Year Evaluation.* Syracuse, N. Y.: Maxwell Graduate School, 1958. 24 p.

An evaluative report on the Doctor of Social Science Program by a group of five distinguished outside consultants. Includes suggestions for strengthening the program, recommendations for future growth and development, the record of the program to date (operation, student programs, placement and record of alumni), and appendixes giving present positions of graduates, dissertation titles, academic origins of graduates, and three sample programs.

119. Taylor, Hugh. *Graduate Education at Princeton, 1945 to 1958.* Princeton, N. J.: The University, 1959. 29 p. (*Author:* Former Dean of the Graduate School, Princeton University.)

A review of postwar development in graduate education at Princeton and a discussion of the relevance of the Princeton experience to problems of general significance. Discusses enrollments, marital status of students, expansion of curriculum and facilities, degrees awarded and rates of attrition, length of time in earning the Ph.D., financial assistance and the growth in amounts and kinds of fellowship funds, faculty responsibility for student progress, and policy governing admissions and academic progress.

120. University of California. *Autonomy and Centralization in the Statewide University.* Proceedings of the 14th All-University Faculty Conference, April 2–4, 1959. Berkeley: The University, 1959.

Not examined.

121. ———. *Quality of Education in Relation to Numbers.* Proceedings of the 12th All-University Faculty Con-

ference, April 4–6, 1957. Berkeley: The University, 1957.

Not examined.

122. ———. *University of California: Retrospect and Prospect.* Proceedings of the 13th All-University Faculty Conference, April 2–4, 1958. Berkeley: The University, 1958.

Not examined.

123. University of Texas. Committee of 75. Rex G. Baker, chairman. *The University of Texas: Report of the Committee of 75.* Austin: The University, 1958. 50 p.

A 75th-anniversary general appraisal of the quality and status of the University of Texas. Reports findings and recommendations about the size, scope, and quality of the University program (including specific discussion of graduate and research programs), faculty development, the quality of the student body, physical facilities, administration, relationships with other State agencies and the public, and financing.

124. Virginia Polytechnic Institute. Faculty Committees on Instruction. *VPI—Its Aims, Its Needs, Its Future.* Blacksburg, Va.: The Institute, 1959. 73 p.

A compilation of the reports of nine special faculty committees charged with examining specific aspects of the Institute's present status and future needs. Includes a report on "Improvement of Instruction at the Graduate Level," which discusses admissions requirements, proficiency in English composition, financial aid, housing, advisory system, curriculum, examinations, channels of communication and information, teaching responsibilities, and the course numbering system. The report on "Evaluation in Education" includes a section on testing graduate students. Other chapters deal with faculty, classroom and laboratory instruction, the need for departmental evaluations, and publications.

125. Western Interstate Commission for Higher Education. *Institutional Research in the West.* Prepared by Hall T. Sprague. Boulder, Colo.: The Commission, 1959. 78 p.

Reports results of a questionnaire survey of 127 Western colleges and universities. The publication lists by subject more than 600 current institutional self-studies being carried on by members of the Western Interstate Commission for Higher Education and includes the name of the institutional officer to be contacted for information on such studies.

See also Nos. 7, 21, 27, 198, 393, 394, 395, 416, 418, 476, 569, 665, 851, 874, 875, 876.

3. State and Regional Surveys

126. Brumbaugh, Aaron J. A Statewide Study of Higher Education in Florida. *Higher Education* 13:79–81, January 1957. (*Author:* Associate Director for University Studies, Southern Regional Education Board.)

A summary of the scope, organization and procedure, most important findings, and recommendations of the study of higher education in Florida (*see* No. 127).

127. ———, *and* Blee, Myron R. *Higher Education and Florida's Future.* 5 vols. Prepared for the Council for the Study of Higher Education in Florida. Gainesville: University of Florida Press, 1956 (vols. I and II); Tallahassee: Board of Control, Florida Institutions of Higher Education (vols. III-V, mimeo.). Vol. I, 87 p.; vol. II, 180 p.; vol. III, 118 p.; vol. IV, 194 p.; vol. V, 238 p. (*Authors:* (1) *See* above; (2) member, Florida State Board of Control for Higher Education.)

Volume I: *Recommendations and General Staff Report;* volume II: *Florida's Economy: Past Trends and Prospects for 1970;* volume III: *Facts and Figures on Florida's Higher Education at Mid-Century,* a compilation of statistical tables and figures; volume IV: *The Government, Management, and Finance of Higher Education in Florida;* volume V: *Professional and Specialized Programs.* Volume V contains a report on graduate education in the arts and sciences by John A. Perkins, O. C. Carmichael, and R. B. Gustavson (p. 80–90), which concludes with five specific recommendations for statewide cooperation and a sixth recommendation that the cost of graduate education be specifically provided for in budgets and appropriations.

128. Butler, Raymond S. Interinstitutional Cooperation in Higher Education. *School and Society* 87:44–47, Jan. 31, 1959. (*Author:* Administrative As-

sistant, Bureau of Institutional Research, Indiana University.)

Describes activities of the Indiana Conference on Higher Education and reports findings of the conference's *Survey of Needs and Resources* (see No. 133).

129. COUNCIL OF STATE GOVERNMENTS. *Reports on Higher Education: An Annotated Bibliography of Recent Reports of State Study Commissions and Other Official Agencies.* Chicago: The Council, 1313 East 60th St., 1958. 15 p. (Processed.)

Indicates major subjects covered and summarizes recommendations in 21 surveys in California (2), Colorado, Connecticut, Illinois, Kentucky, Louisiana, Michigan, Minnesota (2), Nevada, New Jersey (2), New York, North Carolina, South Carolina, Texas, Virginia (2), West Virginia and Wisconsin.

130. HALSEY, JAMES H. A Proposal for Meeting Connecticut's Higher Educational Needs. *Educational Record* 41: 319-28, October 1960. (*Author*: President, University of Bridgeport, Conn.)

Proposes in detail a plan of action for Connecticut which "could resolve the dilemma of quantity and quality, do it economically, and do it in time to meet the rapidly approaching need." The plan calls for three fundamental changes in traditional practices, one of which is that the University of Connecticut should offer courses only on the junior-senior year and graduate levels, a change which would "accelerate its already rapid development toward excellence in instruction and distinction in research."

131. HOLY, T. C.; SEMANS, HUBERT H.; *and* MCCONNELL, T. R. *A Restudy of the Needs of California in Higher Education.* Prepared for the Liaison Committee of the Regents of the University of California and the California State Board of Education. Sacramento: California State Department of Education, 1955. 473 p. (*Authors*: (1) Special Consultant in Higher Education, University of California; (2) Specialist in Higher Education, California State Department of Education; (3) Chief Consultant for the Restudy, formerly Chancellor of the University of Buffalo.)

Report and recommendations of the restudy staff. "In summary, the major problems [studied] were as follows: (1) Potential enrollment in publicly supported institutions of higher education and independently controlled colleges and universities by 1955, 1960, and 1965, together with the necessary physical facilities to care for these expected enrollment increases [chs. 2 and 5]. (2) The functions, organization, and educational programs of the junior colleges, the state colleges, the University of California and the independent institutions, with particular reference to such differentiations of function as seems appropriate among the three types of publicly supported institutions [ch. 3]. (3) The government and administration of public higher education, with particular reference to co-ordination of the educational programs in all types of institutions and to economy in carrying out an over-all plan for the State [ch. 4]. (4) The expenditures in higher education for various types and levels of educational services in the four groups of institutions included in the study [ch. 7]. (5) The financial ability of the State of California to support . . . higher education [ch. 6]." Includes discussion of master's and doctoral programs, departmental and organized research, demand for college teachers, etc.

132. ILLINOIS. HIGHER EDUCATION COMMISSION. Lenox R. Lohr, chairman. *Illinois Looks to the Future in Higher Education.* Chicago: The Commission, 57th Street and South Lake Shore Drive, 1957. 219 p.

A survey of the problems facing public and private higher education in Illinois occasioned by the expected great increase in enrollments. Studies college-age population and enrollment trends, State economic development and its implications, and present facilities, enrollments, and enrollment capacities. Principally concerned with undergraduate education, but gives some attention to present and projected graduate enrollments.

133. INDIANA CONFERENCE OF HIGHER EDUCATION. *A Survey of Needs and Resources: The Capital, Operating, Personnel, and Curriculum Needs of Higher Education in Indiana.* Bloomington: Indiana University. The Conference, Wendell W. Wright, secretary-treasurer, 1957. 69 p.

Six chapters: (1) The Enrollment Outlook, (2) Physical Facilities and Their Use, (3) Current Operations, (4) Personnel, (5) Curriculum, (6) Resources Available for Higher Education in Indiana in 1970. Little direct attention to graduate education.

134. KANSAS LEGISLATIVE COUNCIL. EDUCATION COMMITTEE. *Comprehensive Educational Survey of Kansas.* 5 vols. Topeka: Research Department, the Council, 1960. Vol. 3: *The Higher Education Study.* Prepared by the Higher Education Study Staff, Robert J. Keller, Director. 228 p.

Discusses the pattern of higher education in Kansas, enrollments, programs, physical plant, finance and financial aids, and faculties. Includes a brief discussion of graduate and advanced professional programs (p. 89–93) and an analysis of faculty characteristics and backgrounds (p. 181–94).

135. KROEPSCH, ROBERT H. Meeting New England's Higher Education Needs. *College and University* 35:263–70, spring 1960. (*Author*: Executive Secretary, New England Board of Higher Education.)

A plea for expansion of higher educational resources in New England, including graduate programs and native graduate students preparing for careers in college teaching.

136. LOUISIANA COMMISSION ON HIGHER EDUCATION. *Higher Education in Louisiana.* 5 vols. and *Summary Report.* Baton Rouge, La.: The Commission, 1956. Vols. I-V, pagination by chapters; *Summary Report,* 107 p.

"Analysis of all higher education in Louisiana has been made, with emphasis on the State-supported institutions. Programs, institutions, staffs, physical plants, financial management and organization have been examined. Needs for State-supported higher education through 1970 have been determined. Demands and resources have been identified; enrollments, programs, services, staffs and plants have been projected in a coordinated long-range plan. Prospective necessary outlays for educational and general expenditures, and for additions to physical plants, have been determined. Means for financing State-supported higher education, while maintaining high-quality instruction and discharging the State's full responsibilities to its people, have been identified." Vol. I: *Demands and Resources for Higher Education in Louisiana, 1956 to 1970;* vol. II: *A Long-Range Plan for Higher Education in Louisiana;* vol. III: *Organization and Financial Management of Higher Education in Louisiana;* vol. IV: *Educational Programs and Services for Higher Education in Louisiana,* including a chapter on research programs; vol. V: *Plant and Business Management for Higher Education in Louisiana.*

137. MINNESOTA. GOVERNOR'S COMMITTEE ON HIGHER EDUCATION. Samuel C. Gale, chairman. *Minnesota's Stake in the Future: Higher Education, 1956–1970.* St. Paul: State Department of Education, 1956. 98 p.

Report of a survey of Minnesota's present and future needs in higher education, including a study of the role of the University of Minnesota. The Committee "sees no possibility of any relief to the growing pressures upon the University at the upper collegiate, professional, and graduate levels. The only possible relief can be at the lower division level. . . ." Recommends limitation of research and graduate and advanced professional education to the university.

138. NESBITT, ALBERT J., chairman. Committee on Higher Educational Opportunities in Philadelphia. *Higher Education and the Future of Youth in the Greater Philadelphia Area.* Philadelphia: The Committee, Room 820, Commercial Trust Building, 1957. 68 and lxx p. (Processed.)

A summary of findings and recommendations (p. 6–33) followed by a chapter presenting "resource materials," or results of five principal studies authorized by the committee. See particularly chapter IV, part B, section 12: Facilities and Trends in Expected Graduate and Professional School Enrollments Appear Inadequate to Meet Demands of the Next Two Decades. Tables and bibliography (71 titles) in appendix.

139. NEW ENGLAND BOARD OF HIGHER EDUCATION. *Facts About New England Colleges and Universities.* Winchester, Mass.: The Board, 1959. 23 p.

Tabular and graphic presentation of data gathered in questionnaire survey of all New England institutions of higher education in spring, 1959. Includes figures on enrollments in graduate and professional schools.

140. NEW JERSEY STATE BOARD OF EDUCATION. *College Opportunity in New Jersey.* Trenton: The Board, 1957. 59 p.

A study of the demand for higher education in New Jersey through 1965, and of the capacity of New Jersey public colleges in relation to this demand, with proposals for expansion of instructional facilities in public institutions. Chapter 6, Graduate Study, reports graduate-study plans of 1955 and 1957 college seniors and factors influencing their choice of graduate school, and recommends a further study of the need for graduate programs in the State.

141. NEW YORK. COMMITTEE ON HIGHER EDUCATION. Henry T. Heald, Chairman. *Meeting the Increasing Demand for Higher Education in New York State: A Report to the Governor and the Board of Regents.* Albany, N. Y.: Board of Regents, State Department of Education, 1960. 74 p.

"We have described the needs and responsibilities of higher education in New York State during the next twenty to twenty-five years and have recommended the broad outline of a plan and structure which will make it possible for these needs to be met." Recommends that graduate schools should be established at two State University locations.

142. PENNSYLVANIA. JOINT STATE GOVERNMENT COMMISSION, ADVISORY PANEL. Edward H. Litchfield, panel chairman. *Higher Education in Pennsylvania: Analysis of Problems with Proposals.* Pittsburgh: The University of Pittsburgh, 1959. 85 p.

"In the report that follows, an appraisal is made of the quantitative and financial magnitude of the problems facing higher education in the Commonwealth of Pennsylvania. An assessment of these problems is made and directions toward their solutions are suggested." Includes brief sections on graduate enrollments, costs of graduate education, and preparation of college teachers.

143. PFNISTER, ALLAN O. Missouri Undertakes a State-wide Study. *Educational Record* 38:340–42, October 1957. (*Author*: Assistant Secretary of the Commission on Colleges and Universities of the North Central Association of Colleges and Universities.)

Reports results of a survey of higher education in Missouri sponsored by the Higher Education Division of the Missouri State Teachers Association and directed by the author. Deals principally with undergraduate education.

144. PIERCE, TRUMAN M., *and* ALBRIGHT, A. D. *Public Higher Education in Tennessee.* A Report to the Education Survey Subcommittee of the Tennessee Legislative Council. 5 vol. Nashville, Tenn.: The Council, State Capitol, 1957. 309, 350, 152, 368, and 192 p. (Processed.) (*Authors*: (1) Director and (2) Associate Director of the Study.)

Titles of the volumes are (1) Programs and Services, (2) Personnel, (3) Plant and Plant Utilization, (4) Finance, and (5) Organization and Administration. No single section is devoted exclusively to graduate education, but reference to it occurs throughout. The first volume contains a chapter on organized research (p. 200–27). A printed volume, *Public Higher Education in Tennessee*, summarizes the comprehensive report.

145. RHODE ISLAND. COMMISSION TO STUDY HIGHER EDUCATION. Edwin F. Hallenbeck, Director of Studies. *Rhode Island College and University Enrollment, 1930–1957.* Research Study No. 5. Providence: The Commission, Room 524, 49 Westminster St., 1958. 40 p.

Fifth in a series of research studies concerning present and future needs of higher education in Rhode Island. Contains a short chapter on "Graduate Education in Rhode Island" (p. 21–23).

146. RUSSELL, JOHN DALE. *Higher Education in Michigan: The Final Report of the Survey of Higher Education in Michigan.* Lansing: Michigan Legislative Study Committee on Higher Education, 1958. 185 p.; Summary. *Higher Education* 15:133–37, April 1959. (*Author*: Chancellor, New Mexico Board of Educational Finance, and Director of the Survey.)

Summarizes the findings and conclusions of 12 staff studies (e.g., *see* No. 147), bringing together in a single volume the major points of this 2-year survey. Eight chapters: (1) The State-Wide Patterns of Higher Education in Michigan, (2) Programs of Instruction and Service, (3) Present Institutional Facilities, (4) The Community College in Michigan, (5) Control and Coordination of Higher Education in Michigan, (6) Planning for Future Development, (7) Some Question of State-Wide Policy, (8) Summary of Recommendations.

147. ——— *and others. Instructional Programs in Michigan Institutions of Higher Education.* Staff Study No 6 of the Survey of Higher Education in Michigan, Lansing: Michigan Legislative Study Committee on Higher Education, State Capitol, 1958. 446 p. (*Author: See* above.)

One of a series of 12 staff studies issued in connection with the survey. An analysis of data concerning courses taught and instructional personnel and salaries, gathered from 36 Michigan institutions of higher education, including all State-controlled institutions, for 1955–56. Data are analyzed according to instructional levels (lower division, upper division, and graduate) and subject-matter fields. Principal focus of the study is "the effectiveness with which faculty time and financial resources are used." Discusses such topics as the scope of course offerings, teaching load, student-credit-hour production, relation between the size of instructional staff and the scope of course offerings, average size of classes, interinstitutional duplication of small graduate classes, instructional productivity, and instructional salary expenditure per student-credit-hour.

148. U. S. Department of Health, Education, and Welfare. *Advance Planning to Meet Higher Education Needs: Recent State Studies, 1956–1959.* By S. V. Martorana *and* James C. Messersmith. Office of Education Circular No. 633. Washington: U. S. Government Printing Office, 1960. 33 p.

A tabular analysis of 153 statewide and intrastate interinstitutional studies initiated or completed during the 1956–59 quadrennium. Data are given as to the type and purpose of each study, the manner of authorization, sponsoring agency, institutions included, funds provided for conducting the study, person in charge of the study, problem areas treated (i.e., enrollment, organization and administration, finance, physical facilities, program, faculty, junior college, and other), and the availability of published reports. Treatment of graduate education not specifically indicated.

149. ———. *Higher Education in North Dakota.* A Report of a Survey for the North Dakota Legislative Research Committee and the State Board of Higher Education. 2 vols. By Ernest V. Hollis, S. V. Martorana, *and* staff members of the Division of Higher Education. Washington: The Department, 1958. 132 and 106 p.

Volume I is organized into two main parts: Part I, comprising eight chapters, presents an objective description and summary of the status of higher education in North Dakota; and Part II, with five chapters, goes from this setting to describe plans for the future, needed developments, and recommendations for changes and other actions. Volume II is a source book made up of the many and extensive compilations and tabulations completed, from which the interpretations, conclusions, and recommendations reported in Volume I were drawn. Finds that graduate programs at the University and the Agricultural College "have been expanding gradually . . . in a steady and wholesome fashion." Makes several specific recommendations concerning graduate programs at the Agricultural College (see p. 113).

150. ———. *Higher Education in the Tidewater Area of Virginia.* By S. V. Martorana, Ernest V. Hollis, *and* staff members of the Division of Higher Education. Washington: The Department, 1959. 211 p.; Same, condensed, entitled *Higher Education in the Tidewater Area of Virginia: A Condensation of the Complete Report.* Washington: The Department, 1959. 66 p.

Report of a survey of higher education needs in the Tidewater Area of Virginia done for the State Council of Higher Education of Virginia and the Norfolk Junior Chamber of Commerce. Part I presents background, status, and needs of higher education in the area. Part II gives conclusions and recommendations. One conclusion of the survey staff is that master's level programs in teacher education and the arts and sciences can and should be developed, for the present at a single institution, but that "the emphasis should be on their service to the residents and the economy of the Tidewater Area, not on the development of a national reputation as a graduate school in these fields."

See also Nos. 83, 120, 169, 173, 176, 760, 769.

4. Interinstitutional Cooperation

151. Anderson, Robert C. The Legislative Work Conference on Southern Regional Education. *Journal of Higher Education* 29:416–20, 468–69, November 1958. (*Author*: Director, Southern Regional Education Board.)

Describes the activities of the first seven annual Legislative Work Conferences, convoked by the Southern Regional Education Board in order to bring legislators and educators together for discussion of the Southern Regional Education Compact and broad consideration of regional educational needs. Shows how the conference has been of value in involving legislators in the work of the board and in strengthening the Compact program.

152. ASSOCIATION OF GRADUATE SCHOOLS. AD HOC COMMITTEE ON FEDERATION. Report. In *Journal of Proceedings and Addresses.* 11th Annual Conference, 1959. p. 47–49.

Reports favorable response by presidents of associations of graduate schools to explorations as to a possible federation of associations under the leadership of the AGS.

153. ———. COMMITTEE ON ADMINISTRATIVE PROBLEMS. Report. In *Journal of Proceedings and Addresses.* 11th Annual Conference, 1959. p. 44–46.

Discusses the advantages and disadvantages of a central clearing house for admissions applications to AGS institutions and concludes that it is not feasible or desirable to establish one.

154. ———. COMMITTEE ON FELLOWSHIPS. Report, with discussion. In *Journal of Proceedings and Addresses.* 11th Annual Conference, 1959. p. 62–74.

A discussion of the "Resolution Regarding Scholars, Fellows, and Graduate Assistants." A recommendation that the resolution accompany every offer of award was accepted. A recommendation that deadlines for announcement and acceptance of awards be changed from April 1 and 15 to April 15 and 30 was rejected. Proposals for an exchange of information on fellowship offers and for a central clearing house for fellowship applications were also made and rejected.

155. ———. EXECUTIVE COMMITTEE. Report, with discussion. In *Journal of Proceedings and Addresses.* 11th Annual Conference, 1959. p. 7–24.

Report of deliberations at several Executive Committee meetings held during 1959. Primary subjects of consideration were the role and responsibility of the AGS in providing national leadership for graduate education, the need for enlarging AGS membership or forming a national federation or organization of graduate schools, and the relationship of the AGS to the Association of American Universities. The Committee also recommends that Federal support of research by means of annual and other short-term grants be supplemented by large-scale, long-term, unrestricted grants for graduate study and research.

156. AXT, RICHARD G. The Accrediting Agencies and the Regional Educational Compacts. *Journal of Higher Education* 31:306–12, June 1960. (*Author*: Associate Director, Western Interstate Commission for Higher Education.)

Discusses relationships between the three regional higher educational compact agencies and the regional accrediting agencies, and examines areas of actual and possible cooperation. Suggests that the compact agencies can assist the accrediting agencies in data collection and research.

157. BAUGHER, A. C. The Harrisburg Area Center for Higher Education: Its Background and Program. *Journal of Higher Education* 30:27–30, January 1959. (*Author*: President, Elizabethtown College.)

Describes the Center for Higher Education in Harrisburg, Pa., chartered in December, 1958, in which five Pennsylvania colleges and universities collaborate in making under-graduate and graduate programs available to area residents on a part-time basis. Most students in graduate courses were public school teachers. "It is the plan of the Center to increase its courses on the graduate level in both number and variety. This will make it possible for an individual to complete a substantial portion of the requirements for a graduate degree at the Center before transferring to the university in which he hopes to earn his degree."

158. Co-operative Ph.D. Program in Massachusetts. *School and Society* 88: 132, March 12, 1960.

Describes the Ph.D. program in biological science established in the fall of 1959 by the University of Massachusetts and Amherst, Mount Holyoke, and Smith Colleges. Students will be able to take courses at any of the institutions or all of them.

159. DURHAM, G. HOMER. WICHE: An Experiment in Interstate Cooperation and Regional Planning. *Western Political Quarterly* 10:692–700, September 1957. (*Author*: Academic Vice President, University of Utah.)

Describes the establishment and development of the Western Interstate Commission for Higher Education, and reports numbers of students and amounts of money exchanged in the medical, dental, and veterinary medical programs during the 1956–57 academic year.

160. ENARSON, HAROLD L. Address. In Western College Association, *Proceedings.* Spring meeting, 1957. p. 77–81. (*Author*: Executive Director, West-

ern Interstate Commission for Higher Education.)

Outlines purposes, methods of operation, and activities of the Western Interstate Commission for Higher Education.

161. ———. Cooperation—The States Are the Key. With report of discussion. *Educational Record* 39:140–46, April 1958. (*Author:* See above.)

Describes the goals, performances, and strength and weaknesses of the Southern Regional Education Board, the Western Interstate Commission for Higher Education, and the New England Board of Higher Education. Also discusses existing mechanisms of cooperation at the State level.

162. ———. Federal-Regional Relationships in Higher Education. *Higher Education* 16:3–9, February 1960. (*Author: See* above.)

Analytically describes the programs of the three regional agencies and discusses three major areas of possible partnership between the agencies and the Federal Government: planning and sharing regional facilities, conducting research, and informing the public.

163. Ertell, Merton W. *Interinstitutional Cooperation in Higher Education: A Study of Experiences with Reference to New York State.* Albany: The University of the State of New York, State Education Department, 1957. 118 p. (*Author*: Assistant Vice Chancellor for Educational Affairs, University of Buffalo.)

"As many as 136 of the 157 higher institutions in the State of New York are now engaging formally or otherwise in cooperative relationships with one or more other institutions." Six chapters: (1) Interinstitutional Cooperation: A Summary Judgment of Its Potential, (2) Interinstitutional Cooperation in New York State, (3) Cooperative Practices Outside New York State, (4) The Extension of Interinstitutional Cooperation, (5) Pilot Projects and Other Developing Cooperative Relationships, (6) Toward a Philosophy of Interinstitutional Cooperation. Cites numerous cooperative arrangements in scholarship, research, and graduate programs. Bibliography of 79 titles.

164. ———. Toward a Philosophy of Interinstitutional Cooperation. With report of discussion. *Educational Record* 39:131–39, April 1958. (*Author: See* above.)

Gives examples of 10 types of interinstitutional cooperation. Distinguishes two levels of cooperation: occasional sharing of services or facilities, and arrangements for specialization which "produce the type of functional efficiency in the utilization of limited resources which will enable institutions and the facilities to meet at least a part of the problems of the next decade and a half." Poses five basic questions about interinstitutional cooperation and advances tentative answers.

165. Fitzroy, Herbert W. K. How and to What Extent Can Higher Institutions Within the Same Community Coordinate Their Efforts in the Interests of Efficiency and Economy? In Association for Higher Education, *Current Issues in Higher Education, 1958.* Ed. by G. Kerry Smith. Washington: National Education Association, 1958. p. 152–63. (*Author*: Administrator of the Richmond Area University Center.)

General discussion of the value of and possibilities for interinstitutional cooperation in the form of "university centers." "The crucial difference between the 'university center' and cooperative projects organized to accomplish a specific limited objective . . . is that the 'university center' has a separate and continuing existence and provides the machinery not only for administering existing cooperative programs but also for stimulating and inaugurating new ones." Illustrates by describing the Richmond Area University Center.

166. ———. The Richmond Area University Center: An Experiment in Cooperation. *Educational Record* 38:241–49, July 1957. (*Author*: See above.)

Describes the cooperative programs of research support, visiting scholars, cooperative professors, library affairs, and others, developed among the 13 Virginia Institutions affiliated in the Richmond Area University Center.

167. Folger, John K., *and* Brumbaugh, A. J. Research Program of the Southern Regional Education Board. *Higher Education* 14:93–95, February 1958. (*Authors*: (1) Associate Director for Research, Southern Regional Education Board; (2) Consultant, Division of Higher Education, U.S. Office of Education.)

Describes plans for research projects, seminars, and fellowships to be instituted with funds granted to the SREB by the Carnegie Corporation, including studies of the recruitment of college teachers, programs for the preparation of college teachers, and the recruitment and selection of graduate students.

168. HENRY, DAVID D. Institutional Cooperation and Coordination in Meeting New Responsibilities. *North Central Association Quarterly* 32:318–24, April 1958. (*Author*: President, University of Illinois.)

Discusses the bases of unity and diversity among U.S. colleges and universities, and the value of cooperative planning in matters of mutual interest. Briefly discusses 13 topics which merit cooperative consideration.

169. JOYAL, ARNOLD E. A 'New Look' for California Higher Education. *School and Society* 88:397–99, October 22, 1960. (*Author*: President, Fresno State College.)

Outlines the provisions of the California Legislature's Donahoe Education Act of 1960 as they relate to the University of California and the State college system. The act permits the State colleges to provide instruction in the arts, sciences, and professions through the master's degree, and to enter into agreements with the University of California for awarding joint doctoral degrees in selected fields. Describes changes in the organization, administration, and control of higher education in California which the act prescribes.

170. KOENKER, ROBERT H. Co-operative Graduate Programs. *Journal of Teacher Education* 10, No. 4: 507–12, December 1959; Same. In *Proceedings of the Midwest Conference on Graduate Study and Research.* 15th Annual Meeting, 1959. p. 21–31. (*Author*: Dean, Ball State Teachers College, Indiana.)

A survey of existing co-operative arrangements between institutions of higher learning for offering graduate level work. Information obtained by questionnaire from 229 institutions, of which 55 had some cooperative arrangement with another or other institutions. Describes each of the cooperative arrangements reported.

171. KROEPSCH, ROBERT H. New England Experiments with a New Tool: A Progress Report of the New England Board of Higher Education. *College and University* 33:299–302, spring 1958. (*Author*: Executive Secretary of the Board.)

Describes seven specific accomplishments of the board during its first full year of operation, 1956–57.

172. LOWRY, W. MCNEIL. Institutional Cooperation in Higher Education. In *Proceedings of the Midwest Conference on Graduate Study and Research.* 13th Annual Meeting, 1957. p. 8–13. (*Author*: Program Director, Humanities and the Arts, The Ford Foundation.)

Formal cooperation between university graduate centers and nearby college faculties will do much to ensure proper training and eventual recruitment of college students suited for doctoral training and academic careers. Great advances in library development can also be accomplished by cooperation.

173. MARTORANA, S. V., *and* HOLLIS, ERNEST V. *State Boards Responsible for Higher Education.* U.S. Office of Education Circular No. 619. Washington: U.S. Government Printing Office, 1960. 254 p. (*Authors*: (1) Chief, State and Regional Organization; (2) Director, College and University Administration Branch; both of the Division of Higher Education, U.S. Office of Education.)

A study of public higher education in the 50 States and outlying possessions and, in particular, of the responsibilities, authority, and operating methods of each of 209 State boards responsible for higher education. Part I, in seven chapters, summarizes findings regarding the higher education structures in all the States, notes trends, and appraises the overall picture; Part II presents each State's administrative organization for higher education and describes the individual State boards involved. A summary of the study may be found in *Higher Education* 17, No. 2:11–12, October 1960.

174. SOMMER, SEBASTIAN. The Southern Regional Education Board: A Summary of Operations, 1949–57. *Higher Education* 13:101–04, February 1957. (*Author*: Assistant to the Director, S.R.E.B.)

Summarizes 8 years of activities of the SREB, including interstate contracts for professional and graduate education, annual legislative work conferences, and research on various special problems.

175. SOUTHERN REGIONAL EDUCATION BOARD. *Proceedings, Southern Regional Conference of Governing Boards of Higher Institutions, March 6–8, 1958.* Atlanta, Ga.: The Board, 1958. 72 p.

A compendium of papers and panel presentations delivered at a conference of key members of the governing boards of Southern colleges and universities. Includes panel discussions of the development and activities of the SREB, and of the role of the college and university governing board member in planning for higher education in the South. Also contains addresses by Luther H. Hodges (Governor of North Carolina) on the higher educational needs of the South, by John T. Caldwell (President of the University of Arkansas) on the place and functions of university trustees and presidents, by James A. Perkins (Vice President of The Carnegie Corporation of New York) on the contributions of universities to national security and foreign affairs, and by Harold F. Clark (Professor of Educational Economics, Columbia University) on the potential contribution of university research to the South's economic future.

176. SPINDT, HERMAN A. Specialization and Liaison in California's Higher Education. In University of Michigan, *Addresses Given at the Annual Conference on Higher Education in Michigan, 1957.* Ann Arbor: University of Michigan, 1958. p. 15–29. (*Author:* Director of Admissions and Relations with Schools, University of California.)

Describes development of the State system of higher education in California, its present functional organization, and the interrelationships among its parts.

177. SUGG, REDDING S., JR., *and* JONES, GEORGE H. *The Southern Regional Education Board: Ten Years of Regional Cooperation in Higher Education.* Baton Rouge: Louisiana State University Press, 1960. 179 p. (*Authors*: (1) Associate Professor of English, Georgia State College; (2) Professor of History, Texas Technological College.)

Reviews the development of the purposes, programs, and organization of the SREB since its origin.

178. THECLA, SISTER MARY. Co-operative Graduate Programs: Actualities and Possibilities. *National Catholic Educational Association Bulletin* 56: 179–82, August 1959. (*Author:* Director, Graduate Programs, Immaculate Heart College, Los Angeles.)

Reports results of an informal survey of existing programs of cooperation in Catholic graduate schools with both Catholic and non-Catholic neighbor institutions. Also reports planning for cooperation among the Catholic graduate schools in California.

179. WENBERG, STANLEY J. What Are the Current and Potential Implications of Regional Cooperation Among Institutions of Higher Education for Improving and Extending Educational Opportunities? In Association for Higher Education, *Current Issues in Higher Education, 1958.* Edited by G. Kerry Smith. Washington: National Education Association, 1958. p. 145-51. (*Author:* Assistant to the President, University of Minnesota.)

Describes the extensive activity in voluntary interstate cooperation among institutions in the Middle West, including surveys of dental, medical, and veterinary medical education (which indicated no need for regional compacts in these health science areas), the Midwest Inter-Library Center, the Midwest Universities Research Association, and the "Council of Ten." Reports 32 specific, different, voluntary interstate arrangements in operation. "The absence of a compact arrangement in the Midwest need not, and indeed cannot, be regarded as evidence of any lack of interest or concern in this part of the nation in the efficiencies, economics, and educational advantages that come about through interinstitutional, interstate cooperation."

180. WESTERN INTERSTATE COMMISSION FOR HIGHER EDUCATION. *Opportunity in the West.* Annual Report to the Governors and Legislatures of the Western States, 1959. Boulder, Colo.: The Commission, 1960. 47 p.

A report of the Commission's activities during 1959. Describes the Student Exchange Program (in medicine, dentistry, and veterinary medicine) and several new ventures in interstate cooperation, including a 20-member interuniversity agency for pooling scientific research resources. Next discusses regional needs and cooperative activities in the health sciences. Finally, reports conferences and publications of the Commission and the organization of the Western Association of Graduate Schools.

181. Western Interstate Commission for Higher Education. *A Review of the WICHE Student Exchange Program.* Boulder, Colo.: The Commission, 1958. 94 p.

Discusses the Western Interstate Commission for Higher Education's Student Exchange Program in the health professions, which assists students from states which do not have schools of medicine, dentistry, or veterinary medicine to attend professional schools in other Western states.

See also Nos. 54, 93, 96, 128, 148, 213, 576, 635.

5. Enrollments and Degrees

182. American Association of Collegiate Registrars and Admissions Officers. *Home State and Migration of American College Students, Fall 1958.* Washington: American Council on Education, 1959. 60 p.

A series of tabular statistical analyses of State student enrollments. Includes analyses of graduate and professional enrollments in each State, by home State of students and by sex.

183. ———. *A Supplement to Home State and Migration of American College Students.* Washington: American Council on Education, 1959. 41 p.

Summary tables, computed from the raw data of the earlier report (No. 182), showing the in, out, and net migration of each State and the U.S. territories, together with illustrative maps, graphs, and charts.

184. Council of State Governments. *A Report on Enrollment and Fees at State Colleges and Universities in the Midwest.* Prepared for the Midwestern Interstate Committee on Higher Education. Chicago: The Council, 1313 East 60th St., 1958. 45 p. (Processed.)

A tabular presentation of data on graduate and undergraduate enrollments and fees and graduate and undergraduate student migration among public institutions in 12 Midwestern States (Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin) for 1947, 1952, and 1957. Data are given for each institution and State. Data on required fees are given separately for graduate students in arts and sciences and for graduate students in colleges of engineering and agriculture.

185. Eells, Walter C. Doctorates From Leading American Graduate Schools, 1861–1958. *School and Society* 88:93–94, Feb. 27, 1960. (*Author*: Retired Professor of Education.)

Lists, in rank order, the 37 leading graduate schools in number of doctoral degrees conferred since 1861. Indicates change in rank for period of 1948–58. Also lists leading graduate schools in number of doctoral degrees conferred on women, 1948–58.

186. ———. Geography of the Doctorate. *Journal of Higher Education* 31:46–48, January 1960. (*Author:* See above.)

Compares the ranking of States in production of earned doctorates from 1861 to 1955 with their population ranking in the 1950 census, then with their ranking in production of earned doctorates between 1955 and 1957.

187. ———. Graduate Students in American Universities. *Association of American Colleges Bulletin* 44:459–64, October 1958. (*Author:* See above.)

An analysis of data published in F. W. Ness's *A Guide to Graduate Study: Programs Leading to the Ph.D. Degree.* Shows distribution by subject-matter fields of more than 100,000 graduate students in 1956–57. Makes comparison with distribution as reported in 1897. "The change in emphasis in graduate work in the past sixty years is very striking. In 1897 the natural sciences engaged the attention of a little more than a quarter of the graduate students; in 1957 of almost half of them. On the other hand, enrollments in the humanities and social sciences decreased from almost three quarters of the total number to barely half."

188. ———. Leading American Graduate Schools. *Association of American Colleges Bulletin* 43:563-76, December 1957. (*Author*: See above.)

Determines ranking of leading graduate schools of the country in terms of number of doctorates conferred, 1948–1955, and the five most outstanding institutions in each of 48 principal fields of graduate study. Makes comparisons with other rankings, 1925–1935.

189. ———. Leading American Graduate Schools 1948–58. *Liberal Education* 46:112-16, March 1960. (*Author*: See above.)

Brings the earlier article (No. 188) up to date on evidence of 3 more years and an addition of nearly half to the doctorates awarded in the period originally reviewed.

190. ——— *and* Haswell, Harold A. *Academic Degrees: Earned and Honorary Degrees Conferred by Institutions of Higher Education in the United States.* U.S. Office of Education Bulletin 1960, No. 28. Washington: U.S. Government Printing Office, 1960. 324 p. (*Authors*: (1) See above; (2) Director, Programs Branch, Division of Higher Education, U.S. Office of Education.)

A dictionary of academic degrees, listing more than 1,600 different degrees in current use and more than 800 others now outmoded. Degrees are listed by fields and indexed alphabetically. Introductory chapters provide historical and descriptive discussions of degree-granting practices on the several degree levels and in various types of institutions; they also discuss degrees for women, honorary degrees, spurious degrees, and degree abbreviations.

191. Jackson, William V. The Distribution of Doctorates in Post-War Years. *Journal of Higher Education.* 28:41–44, January 1957. (*Author*: Librarian, Undergraduate Library, University of Illinois.)

An analysis of 52,009 doctorates, by years 1945 to 1954, by 132 institutions conferring them, and by 48 fields of study. Conclusion: doctoral study remained concentrated in relatively few institutions and subjects.

192. Lins, L. J. *Methodology of Enrollment Projections for Colleges and Universities.* Prepared for the American Association of Collegiate Registrars and Admissions Officers. Washington: American Council on Education, 1960. 67 p. (*Author:* Coordinator of Institutional Studies, University of Wisconsin.)

Explains techniques by which institutional representatives might make projections of enrollment for their own institutions, both short-range and long-range. Focus is the undergraduate level, but refers to graduate level throughout.

193. National Academy of Sciences–National Research Council. Office of Scientific Personnel. *Census of Graduate Students in Basic and Applied Natural Sciences in the United States and Possessions, as of April 1, 1958.* Washington: The Council, 1958. 181 p.

Census of all registered graduate students in the basic and applied natural sciences, including mathematics, engineering, and the preclinical sciences. Analyzed by field of study, level (first-year, intermediate, and final doctoral year), citizenship and non-citizenship, kind of school (graduate school and medical school), State, and institution.

194. ———. *Doctorate Production in U. S. Universities 1936–1956, With Baccalaureate Origins of Doctorates in the Sciences, Arts, and Humanities.* Publication 582. Washington: The Council, 1958. 155 p.

Tabulates annual production of doctorates by departments and by region, State, and institution. Also tabulates regional, State, and institutional baccalaureate origins of doctoral graduates. Includes tables on foreign countries and institutions as baccalaureate origins of U.S. doctorates.

195. ———. Production of U. S. Scientists: Trends in the Number of Doctorates Granted in the Major Fields of Science and in the Humanities. *Science* 127:682–86, March 28, 1958.

Presents data on annual production of doctorate production since 1950, postdoctorate the period 1936–55. Compares doctorate production in general areas of study with each other and with an overall rising trend line of 7 percent per annum. Makes same comparison for biological and physical sciences and for chemistry, engineering, physics, and mathematics. Tabulates doctorate production figures annually for 1936–55 in major science and nonscience fields.

196. ———. *The Science Doctorates of 1958 and 1959: Their Numbers, Characteristics, and Employment.* Prepared for the National Science Foundation by Lindsey R. Harmon and Herbert Soldz. NSF 60–60. Washington: National Science Foundation, 1960. 28 p.

An analysis of data derived from the NAS–NRC doctorate records file for calendar years 1958 and 1959. Reports trends in science doctorate production since 1950, postdoctorate employment plans and major employers of 1958 and 1959 graduates, regional production and employment, relations between size of high school class and field of doctorate, ages of graduates and time lapse between baccalaureate and doctorate, and sex and citizenship of graduates.

197. The Pressure's on for Top Degrees. *Business Week*, No. 1607:121-22, June 18, 1960.

A discussion of the reasons for rising graduate enrollments.

198. STATE UNIVERSITY OF IOWA. *A Study of Graduate Degrees Awarded During the Decade 1948–1957.* Iowa City: The University, Office of The Registrar, 1959. 27 p.

A tabular presentation of data concerning master's and doctor's degrees awarded during the decade, the numbers awarded by individual departments and colleges, the undergraduate origins of advanced degree recipients, the undergraduate majors of State University of Iowa undergraduate students who received advanced degrees, master's degrees given with and without thesis, and types of master's degrees awarded.

199. U. S. DEPARTMENT OF HEALTH, EDUCATION AND WELFARE. *Biennial Survey of Education in the United States, 1954–56.* Chapter 4, Section I: "Statistics of Higher Education, 1955–56: Faculty, Students and Degrees." By Henry G. Badger *and others.* Washington: U.S. Government Printing Office, 1958. 152 p.

Summary and analysis of statistics for academic year 1955-56, with numerous presentations of historical statistical backgrounds. Faculty data include resident instructional staff, analyzed by senior rank (instructor or above) and junior rank (teaching assistants and the like), by type of work (including research), by sex and by control and type of institution. Enrollment data include resident graduate enments, analyzed by sex and by control, type, and size of institution. Degree data are analyzed by level, sex of recipient, and region; and there is a brief discussion of major fields of study. Extensive tabular analyses.

200. ———. *Earned Degrees Conferred by Higher Educational Institutions, 1957–1958.* Compiled by Diane B. Gertler *and* Mabel C. Rice. Office of Education Circular No. 570. Washington: U.S. Government Printing Office, 1959. 210 p.

Eleventh annual survey of earned degrees. Lists degrees conferred by each institution by level of degree, sex of recipient, and field of study. Extensive introductory analyses and comparisons, including a discussion of recent trends.

201. ———. *Projection of Earned Degrees to 1969–70.* By Louis H. Conger, Jr., *and* Marie G. Fullam. OE–54002. Washington: The Department, 1959. 7 p.

Projected national totals of earned degrees for each year through 1969-70, by level of degree and by sex. The number of degrees actually earned in each year from 1869-70 through 1957-58 is provided for comparison.

202. ———. *Resident, Extension, and Other Enrollments in Institutions of Higher Education: First Term, 1957–58.* Compiled by Hazel C. Poole *and* Mabel C. Rice. Office of Education Circular No. 593. Washington: U.S. Government Printing Office, 1959. 73 p.

Fourth in a series of comprehensive surveys, now done biennially, of first-term enrollments. Includes reports of graduate enrollments (i.e., resident degree-credit students, full- or part-time, taking work beyond the bachelor's degree in liberal arts and sciences or beyond the first professional degree) for each institution of higher education in the United States and its territories. Reports total graduate enrollment of 278,603.

203. ———. *A Statistical Comparison of Graduate Degrees Awarded by Members of the Association of Graduate Schools and by All U.S. Universities, 1957–58.* Prepared by John L. Chase, James H. Blessing, *and* Grandis L. King. OE–54011. Washington: U. S. Office of Education, 1960. 27 p. (Processed.)

A series of tables indicating the number of doctoral and master's degrees awarded by AGS institutions in the four major disciplines of the arts and sciences and in the major fields of each discipline, and comparing these figures with the numbers of degrees awarded by all U.S. universities and colleges. Also lists non-AGS institutions which awarded 20 or more doctorates or 47 or more master's degrees (i.e., as many as the lowest total number awarded by a single AGS institution).

204. ———. *Statistics of Land-Grant Colleges and Universities, Year Ended June 30, 1958.* Prepared by George Lind and Mabel C. Rice. Office of Education Circular No. 612. Washington:

U.S. Government Printing Office, 1960. 141 p.

Eighty-ninth annual statistical report on the land-grant institutions. Presents data on enrollments, degrees, faculty and finances, derived from 11 different office of Education questionnaires. Compares data, whenever possible, with data for all institutions of higher education and for all 4-year institutions. Enrollment data given separately for graduate students and undergraduates. Degree data given by level and field. Faculty data include figures for senior staff (rank of instructor or above), junior instructional staff (teaching assistants, etc.) and staff for organized research. Financial data include figures for research income and expenditures. Extensive tabulation.

205. ———. *Summary Report on Survey of Students Enrolled for Advanced Degrees: Fall 1959.* By Wayne E. Tolliver. Office of Education Circular No. 625. Washington: The Department, June 1960. 4 p.

A preliminary report of the results of the first in a new series of nationwide graduate enrollment surveys. Separate enrollment figures are given for full-time and part-time attendance and for first-year, intermediate, and terminal-year students, in each of the 60 fields covered by the survey. Fields included: Agriculture, biological and physical sciences, mathematics, the health professions, and selected social sciences.

See also Nos. 43, 65, 66, 67, 69, 70, 75, 94, 103, 139, 227, 367, 487, 488, 491, 859.

6. Cost, Finance, and Student Assistance

a. General Studies

206. American Council on Education. *Higher Education and the Society It Serves.* Statements Presented at the Annual Meeting of the American Council on Education, Oct. 11–12, 1956, Chicago. Edited by Raymond F. Howes. Washington: The Council, 1957. 103 p.

Contains 14 addresses dealing with emerging relationships between higher education, its publics, and its sources of support. Seven topics: higher education and (1) the American public, (2) industry, (3) labor, (4) agriculture, (5) the local community, (6) the States, and (7) the Federal Government. Each topic is discussed by two speakers, one a representative of an educational institution, the other a leading figure in the area under discussion. The main consideration: "the problem of what new relationships must be established to enable business, labor, agriculture, and Government to get what they need from educational institutions, and to enable schools and universities to find the money they must have to do the job. . . ."

207. ———. Committee on College Teaching. Graduate Fellowship Programs. *Higher Education and National Affairs* 6, No. 6, February 21, 1957. 2 p.

A statement of six points for consideration by agencies considering the establishment of fellowship programs: (1) there is need for graduate fellowships for future college teachers; (2) such fellowships should provide some opportunity to the fellow to teach; (3) such teaching opportunities should include the guidance of experienced teachers; (4) fellowship programs should afford a prospect of continuing support over a period of time adequate to the completion of doctoral requirements; (5) programs should be devised so as to increase the total pool of graduate students; (6) programs should be devised so as to avoid concentration of fellows at a small number of institutions.

208. Commission on Financing Higher Education. John D. Millett, Executive Director. *Nature and Needs of Higher Education.* New York: Columbia University Press, 1952. 191 p.

The Commission's report of results of its 3-year study of the financial condition of higher education, conducted under the auspices of the Association of American Universities. First provides a general view of the nature, functions, and organizational diversity of higher education; then discusses its economic problems and its sources of support; finally reports the Commission's conclusions regarding choices for future financial development. (*See also* the companion volume, No. 216, reporting in detail the findings of the commission's research staff.)

209. Dure, Leon S., 3d. More Graduate Students Are the Key to the Nation's Search for Scientists. *American Mercury* 90:113–16, April 1960. (*Author:* Graduate student, University of Texas.)

Argues that the rewards for achieving the Ph.D. in science are not commensurate with the effort and the sacrifices, with the result that the graduate population in science is composed largely of "'oddballs' and men of small-bore aspirations." Urges the need for more rewarding assistantships and fellowships.

210. Florida State University. Office of Educational Research and Service. *A Study of Graduate Fellowships and Assistantships in the Florida State University and in Other State Universities and Land-Grant Institutions, 1955–1956.* Tallahassee: The Office, 1956. 136 p.

"Data for the study here reported came from these sources: (1) holders of FSU graduate fellowships and assistantships supplied information and reactions concerning the program; (2) FSU faculty members supplied information and opinions concerning the present program and suggestions for improving it; and (3) a substantial number of state universities and land-grant colleges supplied information concerning the programs of graduate fellowships and assistantships in their respective institutions. From each of these three sources data were obtained by means of a different and appropriate questionnaire. . . . The findings will be reported in four sections, one section for each of the sources from which the raw data came followed by a concluding section." Reports on characteristics of recipients, amounts of grants, fields, work loads required, administration of grants, etc.

211. Harris, Seymour E., *ed. Higher Education in the United States: The Economic Problems.* Cambridge, Mass.: Harvard University Press, 1960. 252 p.; Same. *Review of Economics and Statistics* 42, No. 3, Part 2, Supplement, August 1960. 247 p. (*Author:* Professor of Political Economy, Harvard University.)

A compilation of 43 papers read and discussed at the eight sessions of a Seminar on the Economics of Higher Education during 1958–59 and at one earlier meeting. In seven parts: (1) an Introduction by Harris; (2) Pricing and the Student Body; (3) Government Aid; (4) Faculty Status; (5) Experiments in Higher Education: Educational and Economic Issues; (6) Economics and Educational Values; (7) Investment and endowment Policies. Contributors include nine college presidents, six vice presidents, provosts and deans, six college treasurers, three staff members of the U.S. Office of Education, two foundation officers, two officers of the College Entrance Examination Board, six economists, six other social scientists, an undergraduate, and two others.

212. Henry, David D. New Priorities in Research. *Educational Record* 41:148–53, April 1960. (*Author:* President of the University of Illinois.)

Argues that basic research is the foundation for all research and development, that the Nation is deficient in the scope and support of basic research in industry and government, that the research activities carried on in colleges and universities are one of the vital resources of the Nation and bear a close relationship to national prosperity and security, and that the contribution of the universities in this respect must be recognized and supported on a much larger and less restricted scale.

213. Keezer, Dexter M., *ed. Financing Higher Education: 1960–70.* The McGraw-Hill Book Company 50th Anniversary Study of the Economics of Higher Education in the United States. New York: McGraw-Hill Book Co., Inc., 1959. 304 p. (*Author:* Director, Department of Economics, McGraw-Hill Book Co.)

A compilation of 12 papers prepared for, and revised following discussions at, a 2-week seminar on the costs and financing of higher education. Contributors are Dexter M. Keezer, Philip H. Coombs, Seymour E. Harris, Clifford C. Furnas and Raymond Ewell, Gordon N. Ray, Harlow J. Heneman, Sidney G. Tickton, John D. Millett, Robert D. Calkins, W. Homer Turner, Harold F. Clark, and Willard L. Thorp. The paper by Furnas and Ewell (Chancellor and Vice-Chancellor for Research, University of Buffalo), entitled *The Role of Research*, is a study of the financial implications of the rise in magnitude and importance of university research. Ray (Vice President, Provost and Professor of English, University of Illinois), in "Conflict and Cooperation," discusses the financial conflicts between public and private institutions and among public institutions within a single State, and reviews cooperative efforts to ameliorate these conflicts. *The Role of Government Support*, by Calkins (President of the Brookings Institution), is a discussion of the present dimensions of State and Federal support of higher education, future needs and appropriate financing, ways and means of improving the effectiveness of Federal assistance, and the problem of Governmental control.

214. Kidd, Charles V. Basic Research—Description versus Definition. *Science* 129:368–71, Feb. 13, 1959. (*Author:* Chief of the Office of Research Planning of the National Institutes of Health.)

Argues that "basic research has not yet been defined—and may never be defined—so as to permit an unambiguous, objective measurement of the dollars spent for basic research in this country." Discusses contradictions and inadequacies of main definitions and how these may be resolved, but concludes that it is not possible to define basic research operationally and hence that efforts to secure precise and comparable statistics on the subject are futile.

215. Koehler, W. A. Faculty Compensation for Sponsored Research: Good or Bad? *Journal of Engineering Education* 50:569–71, March 1960. (*Author:* Director, Engineering Experiment Station, and Acting Dean of the Graduate School, West Virginia University.)

Argues the unfairness of prohibiting members of the faculty from receiving additional compensation for conducting sponsored research while permitting them to receive compensation for consulting work. Presents eight arguments for favoring sponsored research over consulting work.

216. Millet, John D. *Financing Higher Education in the United States.* New York: Columbia University Press, 1952. 503 p. (*Author:* Executive Director, Commission on Financing Higher Education; on leave as Professor of Public Administration, Columbia University.)

Staff report of the Commission on Financing Higher Education. (For the general report of the Commission, *see* No. 208.) "Altogether the staff of this Commission undertook seventeen different major research projects in addition to our statistical analysis and visitations to individual colleges and universities. . . . [The] purpose of this study is primarily factual, to present the scope of the data collected by the staff of the Commission in the course of this inquiry." In five parts: (1) The Objectives of Higher Education, (2) Costs and Administration, (3) Sources of Income, (4) The Possibilities for Future Financing, (5) The Task Ahead. Graduate study and research discussed throughout.

217. Morgen, Ralph A. Sponsored Research—Good or Bad? *Journal of Engineering Education* 50:565–68, March 1960. (*Author:* President, Rose Polytechnic Institute, Terre Haute, Ind.; formerly Research Director, Purdue Research Foundation.)

Argues that sponsored research is valuable because it serves the purpose of education, but that there is an optimum ratio of expenditure for research as against teaching (roughly 25 percent in departments or institutions offering work only at the bachelor's degree level, 50 percent in those offering the master's degree, and 100 percent in doctoral institutions), and that in obtaining funds for research only educationally appropriate projects should be supported.

218. National Science Foundation. Funds for the Performance of Basic Research in the United States, 1953–58. *Reviews of Data on Research and Development*, No. 22. NSF 60–43. Washington: The Foundation, 1960. 11 p.

Compares expenditures for basic research during 1953–54 and 1957–58 by the four major sectors of the economy (i.e., Federal agencies, industry, universities, and other nonprofit institutions), both as performers of research and as sources of funds. Also compares expenditures for basic research, by each sector, in the life and physical sciences. Discusses relationship between expenditures for basic research and for total research and development, and the problems of concept and definition in the distinction.

219. ———. Funds for Research and Development in Colleges and Universities, Fiscal Year 1958. *Reviews of Data on Research and Development*, No. 19. NSF 60–21. Washington: The Foundation, 1960. 7 p.

Reports results of a comprehensive survey of college and university expenditures for separately budgeted research during the year 1957–58. Reports total expenditures, sources of funds, and distribution of funds among institutions and fields of research. Compares figures with those reported for 1953–54 in No. 221.

220. ———. Funds for Research and Development in the United States, 1953–59. *Reviews of Data on Research and Development*, No. 16. NSF 59–65. Washington: The Foundation, 1959. 8 p.

Compares the four major sectors of the economy engaged in research and development (i.e., Federal agencies, industry, colleges and universities, and other nonprofit institutions) in amounts spent in performance of research and development and as originating sources of these funds from year to year during the period 1953–59.

221. National Science Foundation. *Scientific Research and Development in*

Colleges and Universities: Expenditures and Manpower, 1953–54. NSF 59–10. Washington: U. S. Government Printing Office, 1959. 173 p.

A national survey of the dollar and manpower volume of research in the natural and social sciences performed by colleges and universities from July, 1953 to June, 1954. Expenditures are analyzed by components of cost (separately budgeted, indirect, departmental), character of work (basic research and other research and development), sources of funds, and field of science (including engineering and mathematics). Manpower (full-time and full-time-equivalent faculty members) is analyzed by percent of time devoted to research, type of institution, school or faculty within an institution, academic rank, and field of science. Data are further analyzed by two major groups of institutions: (1) 190 large colleges and universities, and (2) 930 primarily liberal arts and teachers colleges. Various comparisons are made between fiscal and manpower data with respect to field and kind and size of institution. The data "will constitute a bench mark against which future trends can be measured and analyzed."

222. Outsize Graduate Fellowship Grants. *School and Society* 88:22, Jan. 2, 1960.

Report of a speech by Dean Alan D. Ferguson of Yale in which he decries the tendency to offer stipends above the prevailing fellowship rate and thus to create "an unfortunate competition for high level talent among various fellowship programs."

223. RAPPORT, VICTOR A. Education and Money. *School and Society* 87: 213–14, May 9, 1959. (*Author:* Dean, College of Liberal Arts, Wayne State University.)

Points out ways in which foundation, industrial, and other specialized grants are too often accepted without careful or courageous enough assessment, and, as a result, disrupt sound academic programs.

224. RUSSELL, JOHN DALE. *The Finance of Higher Education.* Revised Edition. Chicago: University of Chicago Press, 1954. 416 p. (*Author:* Chancellor and Executive Secretary, New Mexico Board of Educational Finance.)

A comprehensive discussion of the problems of the management of business and financial affairs in institutions of higher education and of the best available solutions to those problems. Fifteen chapters, each accompanied by an extensive bibliography: (1) The Field of Institutional Finance; (2) Organization of the Business Office; (3) Financial Accounting; (4) Budgetary Procedures; (5) Financial Reports and Audits; (6) Classification of Expenditures; (7) Analysis of Expenditures; (8) Sources of Financial Support; (9) Student Fees; (10) Financial Assistance to Students; (11) Management of Endowment Funds; (12) Purchasing; (13) Management of Auxiliary Activities; (14 Fund Raising; (15) The Financing of Special Projects.

225. ——— *and* DOI, JAMES I. Analysis of Institutional Expenditures. *College and University Business* 19:19–21, September; 27–29, October; 44–47, November; 39–41, December 1955; 20: 41–45, January; 47–51, February; 41–43, March; 35–37, April; 47–48, May; 48–51, June 1956; 21:43–46, July; 42–47, August 1956. (*Authors:* (1) *See* above; (2) Budget Analyst and Assistant to the Chancellor, both of the Board of Education Finance, State of New Mexico.)

A discussion of the techniques and procedures of analyzing and interpreting institutional expenditures generally, and, in particular, expenditures for administration and other general purposes (in the November and December articles), library expenditures (January), expenditures for plant operation and maintenance (February and March) and expenditures for instruction (April through August). Expenditure data collected since 1952 for six New Mexico institutions are used for illustrative purposes.

226. STICKLER, W. HUGH. Graduate Fellowships and Assistantships in State Universities and Land-Grant Institutions. *Higher Education* 13:124–27, March 1957. (*Author:* Director, Office of Educational Research and Service, Florida State University.)

Reports highlights of *A Study of Graduate Fellowships and Assistantships in the Florida State University and in Other State Universities and Land-Grant Institutions, 1955–56* (see No. 210), based on a questionnaire survey of graduate deans. Discusses titles of appointees, kinds of service required, administration of appointments, fraction of work load or hours of work required, mean stipends, academic requirements for appointments, tuition and fee charges or waivers, ratio of appointments to total number of resident students, and funds available for each kind of appointment and their sources.

227. Survey of Graduate Schools. *Higher Education* 16:11–12, May 1960.

Reports completion of a questionnaire survey of universities awarding the Ph.D. The survey covered the number, value, and source of graduate fellowships in 60 departments or fields; the number of additional doctoral candidates which institutions could accept without otherwise expanding; the number of "ABD's" (all but the dissertation), of at least 3 years standing, which they would recommend for a 1-year fellowship; and a rating by graduate deans of various barriers to the expansion of their graduate schools. A report of the results is now being prepared in the U. S. Office of Education.

228. U. S. Department of Health, Education and Welfare. *Biennial Survey of Education in the United States, 1954–56*. Chapter 4, Section II: "Statistics of Higher Education, 1955–56: Receipts, Expenditures, and Property." By Henry G. Badger and others. Washington: U.S. Government Printing Office, 1959. 177 p.

Summary and analysis of sources of income, kinds of expenditure, and property and other assets of institutions or higher education in the academic year 1955–56, including Federal and private research grants and contracts and expenditures for organized research. Discusses historical trends and gives extensive tabular analyses of data.

229. U. S. President's Science Advisory Committee. James R. Killian, chairman. *Strengthening American Science*. A Report to the President. Washington: U. S. Government Printing Office, 1958. 36 p.

Discusses the problem of coordinating Federal programs in scientific research and development and recommends the establishment of a Federal Council for Science and Technology. Also discusses Government laboratories, Government-sponsored research in non-Government institutions, capital needs for scientific equipment, and support of research by State and municipal governments and by corporations and foundations. University research and its problems are a principal focus of attention throughout. Concludes with seven pages of recommendations and suggestions.

See also Nos. 43, 64, 69, 72, 73, 75, 78, 94, 96, 99, 103, 417, 424, 427, 434, 475, 488, 772, 775, 817, 827, 836, 851, 871.

b. Federal Support and the National Interest

230. Allen, Ernest M. Why Are Research Grant Applications Disapproved? *Science* 132:1532–34, Nov. 25, 1960. (*Author:* Chief of The Division of Research Grants, National Institutes of Health.)

Lists and discusses characteristic shortcomings in a sample of 605 rejected applications to the National Institutes of Health for grants for research projects.

231. Alpert, Harry. The Knowledge We Most Need. *Saturday Review*, Feb. 1, 1958, p. 36–38. (*Author:* Program Director for Social Science Research, National Science Foundation.)

Reviews the development of National Science Foundation support of research and graduate study in the social sciences.

232. American Council on Education. Committee on Institutional Research Policy. Virgil M. Hancher, chairman. *Sponsored Research Policy of Colleges and Universities*. Washington: The Council, 1954. 95 p.

A study of the major problems raised by sponsored research, with policy recommendations for institutional and sponsoring agencies. Principal recommendations: sponsored research should further educational purposes; balance should be maintained for basic as against applied research; "institutional" or general-purpose grants are preferable to grants for specific projects; institutions should avoid having educational programs become dependent on outside financing; sponsoring agencies should pay full cost of research projects.

233. ———. Committee on Relationships of Higher Education to the Federal Government. A Proposed Program of Federal Action to Strengthen Higher Education in the Service of the Nation. *Higher Education and National Affairs* 7:1–7, Jan. 22, 1958.

Five recommendations: (1) To increase the supply of qualified college teachers, the Federal Government should establish a system of grants to graduate schools offering the Ph.D. degree; (2) the Government should provide financial assistance for the expansion of facilities; (3) the Government should assist in removing financial barriers to higher education for qualified students; (4) the Government should modify existing programs which constitute financial drains on college and university resources; (5) a permanent Council of Educational Advisers to the President should be established.

234. **Babbidge, Homer D., Jr.** Higher Education and the Federal Government. *Higher Education* 17:3–6, September 1960. (*Author:* Assistant Commissioner and Director, Division of Higher Education, U. S. Office of Education.)

A plea for decision on the part of educators about the place of Federal action in the field of higher education before the course of events has taken the decision out of their hands. Cites several examples of extensive Federal involvement in higher education and mentions certain effects which deserve urgent attention.

235. ———. Higher Education and the National Defense Education Act. *Phi Delta Kappan* 40:200–05, February 1959. (*Author:* Director, Financial Aid Branch, Division of Higher Education, U. S. Office of Education.)

A question and answer explanation of the terms and operation of the higher education programs established by the National Defense Education Act of 1958: viz. the Student Loan Program, the Graduate Fellowship Program, the Counseling and Guidance Training Institutes Program, and the Language Development Center and Institute Programs.

236. **Barnard, Chester I.** A National Science Policy. *Scientific American* 197: 45–49, November 1957. (*Author:* Former Chairman of the National Science Foundation.)

A commentary upon the report of the National Science Foundation, *Basic Research–A National Resource* (No. 405).

237. **Beach, Leonard B.** Federal Aid to Education and the Graduate Schools. In *Proceedings of the Midwest Conference on Graduate Study and Research.* 14th Annual Meeting, 1958. p. 49–52. (*Author:* Dean of the Graduate School, Vanderbilt University.)

Discusses the responsibility of the graduate dean, in the face of forthcoming heavy Federal financing of science and engineering, to uphold the "free humane tradition" of graduate education. Proposes formal federation of all conferences of graduate deans to gain coordination of thinking and action.

238. **Bent, Henry E.** National Defense Education Act (Title IV). With discussion. In Association of Graduate Schools, *Journal of Proceedings and Addresses.* 11th Annual Conference, 1959. p. 83–94. (*Author:* Director of the National Defense Graduate Fellowship Program.)

Calls attention to several restrictions and procedures and discusses new interpretations to be followed in administering the fellowship program. Mentions some possible revisions. Asks for support in supplying information which will help in evaluating the program's effect.

239. **Blackwell, Thomas E.** Some Tax Problems Confronting Colleges. *College and University Business* 24: No. 4, p. 42–43, April; No. 5, p. 33, May; No. 6, p. 38–39, June 1958. (*Author:* Educational Management Consultant, Washington University, St. Louis.)

Discussion of legislation and income tax rulings concerning postdoctoral fellowships, prize awards for scholarly and scientific achievements, and stipends awarded to those who are candidates for a degree.

240. **Blauch, Lloyd E.** Federal Aid for the Expansion of Graduate Education. In *Proceedings of the Midwest Conference on Graduate Study and Research.* 14th Annual Meeting, 1958. p. 28–33. (*Author:* Assistant Commissioner for Higher Education, U.S. Office of Education.)

Sets forth the background facts and considerations (the high demand for college teachers, the low supply of doctoral graduates, the considerable potential for increasing the output of doctorates) which led to the Administration bill proposing Federal support for the expansion of graduate education, and outlines the proposal itself.

241. **Boehm, George A. W.** The Pentagon and the Research Crisis. *Fortune* 57:134–35, 153–60, February 1958. (*Author:* Associate Editor, *Fortune.*)

Discusses operations of Department of Defense and the basic research programs of the three services, particularly in their connections with the universities, and points out some financial and administrative shortcomings and desiderata.

242. Buchta, J. W. New Era in Science? *American Journal of Physics* 26:352–57, September 1958. (*Author:* Professor of Physics, University of Minnesota.)

Cautions against the possibility that science may come under the domination of the military or other Federal agencies having noneducational interests. Argues that "the staff and resources of the university should be devoted to their unique function—the job in the classroom and with the graduate student in the laboratory."

243. Carnegie Foundation for the Advancement of Teaching. Federal Programs in Higher Education. In *52d Annual Report, 1956–57.* New York: The Foundation, 1957. p. 11–27.

An account of an all-day discussion by the trustees of the Foundation. Surveys the major arguments for and against increased Federal support of higher education, reviews the various types of operative Federal programs, discusses several possible new forms of Federal assistance, and points out the national responsibility of leaders in higher education and the need for an informed public.

244. Coggeshall, Lowell T. To what Extent Should National Needs Determine the Nature and Purpose of the University Research Program? In Association for Higher Education, *Current Issues in Higher Education, 1959. Ed.* by G. Kerry Smith. Washington: National Education Association, 1959. p. 88–90. (*Author:* Dean, Biological Sciences and Medicine, University of Chicago.)

Believes that university research should respond to national needs. In doing so, however, it should make certain that there is no loss in the integrity and purpose of the university.

245. Cohen, Eugene E. Hardware vs. Research. *College and University Business* 27:23, July 1959. (*Author:* Vice President and Treasurer, University of Miami, Florida.)

"As more and more support for research is coming from federal agencies, I should like to discuss some of the problems of dealing with these offices and offer some suggestions that I believe would be most helpful from the institutions' standpoint."

246. Concerning the University and Contract Research: Document by the Academic Freedom Committee of the American Civil Liberties Union. *School and Society* 88:160–62, March 26, 1960; Same, entitled The University and Contract Research: An Important Statement. *Journal of Higher Education* 31: 221–25, April 1960; Same. *American Association of University Professors Bulletin* 46:52–54, spring 1960

Summarizes a number of threats to the autonomy of universities in shaping the development of education and research which are growing more dangerous as outside financing of research and graduate education grows larger. Fear expressed that this loss of autonomy will lead to significant impairment of the individual rights of faculty members.

247. Consolazio, William V., *and* Jeffrey, Helen L. Federal Support of Research in the Life Sciences. *Science* 126:154–55, July 26, 1957. (*Authors:* (1) Program Director: (2) professional assistant, both of the Program for Molecular Biology, National Science Foundation.)

A consideration of trends in Federal support of contract and grant research in the life sciences during the period 1952–55. Graphic and tabular presentation of annual distribution of support by Federal agency and category of science supported.

248. Cornell University. *Support of Graduate Education in an Enlightened Society: Two Addresses Delivered at Cornell University, Autumn 1960.* Ithaca, N. Y.: The University, 1960. 29 p.

Two addresses: "Governmental Policy and Graduate Education," by Homer D. Babbidge, Jr., Assistant Commissioner and Director, Division of Higher Education, U. S. Office of Education; and "The Philanthropic Foundations and Graduate Education," by Sir Hugh S. Taylor, President of the Woodrow Wilson National Fellowship Foundation. Babbidge points out that Federal support of graduate education is already voluminous and "is here to stay," then discusses two major issues in the form of this support: whether to support the few best of the Nation's graduate schools or to support all graduate schools, both weak and strong; and whether to support only those fields of study which bear most obviously upon the Federal interest or to provide basic support for all academic fields. Taylor discusses three philanthropic fellowship programs established in the 19th century and three established in the 20th century, showing ". . . that enormous benefits to individuals, to universities, indeed to the whole nation, have resulted from the concern of philanthropic foundations with graduate education."

249. DERTHICK, LAWRENCE G. Higher Education and the National Interest. In Association for Higher Education, *Current Issues in Higher Education, 1958*. Ed. by G. Kerry Smith. Washington: National Education Association, 1958. p. 23–29; Same. *School and Society* 86:212–15, May 10, 1958. (*Author:* U. S. Commissioner of Education.)

Discusses three proposals relating to higher education, made by a departmental task force on education, particularly "the expansion and strengthening of graduate education and the provision of federal fellowships for potential college teachers."

250. DUBRIDGE, LEE A. An Open Letter to Federal Agencies on Principles for Determination of Indirect Costs on University Research Contracts and Grants. *Educational Record* 40:48–52, January 1959. (*Author:* President, California Institute of Technology.)

Discusses the growth of university research and its value to the nation, the meaning of indirect costs, the distinction between *identifiable* indirect costs and the intangible values which universities can make no attempt to recover, the burdens and injustices to universities of certain cost-accounting practices, and principles which would provide an equitable basis for indirect-cost determinations.

251. DUSHANE, GRAHAM. No Opposition, No Support. *Science* 128:59, July 11, 1958. (*Author:* Editor of *Science*.)

An editorial explaining the difference between Federal "grants" and Federal "contracts" for research at universities, and urging support of Congressional bills which would extend the practice of using grants rather than contracts.

252. ELBERS, GERALD W. The National Defense Education Act and Higher Education. *Higher Education* 16:8–16, September 1959. (*Author:* Reports Officer, Financial Aid Branch, Division of Higher Education, U.S. Office of Education.)

A summary of the accomplishments of each of the higher education programs of the National Defense Education Act and of some of the important policies that have been adopted in administering them.

253. ELDER, J. P., *and* SAWYER, RALPH A. Report on Provisions of the 1958 National Defense Education Act. With discussion. In Association of Graduate Schools, *Journal of Proceedings and Addresses*. 10th Annual Conference, 1958. p. 5–15. (*Authors:* (1) Dean, Graduate School of Arts and Sciences, Harvard University, and Director of the National Defense Graduate Fellowship Program; (2) Dean, School of Graduate Studies, University of Michigan.)

An interpretation of the terms of Title IV of the Act, authorizing the Graduate Fellowship Program, and a discussion of problems of meaning and administration.

254. ELKINS, WILSON H. Federal Aid to Graduate Education. In David A. Lockmiller, ed., *Southern University Conference Proceedings, 1958*. Chattanooga, Tenn.: The Conference, University of Chattanooga, 1958. p. 17–19. (*Author:* President, University of Maryland.)

Describes the two major bills dealing with fellowships pending Congressional consideration in April 1958.

255. FOLGER, JOHN K. National Funds Boost Graduate Education in Southern Universities and Colleges. *Regional Action* 11, No. 2:1–3, June 1960. (*Author:* Associate Director of Research, Southern Regional Education Board.)

Analyzes impact of four fellowship programs (National Defense, Woodrow Wilson, and National Science Foundation cooperative and regular programs) upon the South. Discusses the numbers of students provided by each, general fields affected, and graduate schools chosen.

256. FONTAINE, THOMAS D. The Impact of National Science Foundation Fellowships on Scientific Training and Education. *Graduate Journal* 2:95–108, spring 1959. (*Author:* Head, Fellowship Section, National Science Foundation.)

States the guiding principles followed by the National Science Foundation in developing its fellowship programs. Gives tabular summaries of the number of fellowship applications and awards in the seven programs since 1952, the number of fellowships awarded in each field and program in 1958, and the number of applications and awards by region and state in 1958. Finally, gives a brief description of each of the programs, including the new NATO Postdoctoral Fellowship Program.

257. Geographical Distribution of NDEA Fellowships. *Higher Education* 16:14–15, October 1959.

Reports distribution of National Defense Education Act fellowships among the States, showing that "...the States which have profited relatively most [i.e., in proportion to their recent output of doctoral degrees] are those with a relatively low output of doctorates."

258. GORDON, DONALD H. Scholarship and Fellowship Grants as Income: A Search for Treasury Policy. *Washington University Law Quarterly* 1960: 144–57, April 1960. (*Author:* Associate Professor of Law, Wayne State University.)

Discusses the law governing income tax treatment of fellowships and grants for research. Argues that Treasury interpretation of the applicable provision (Section 117 of the Internal Revenue Code of 1954) has been uncertain because it "has continued to make its chief reference the polar terms 'compensation' and 'gift' rather than the essentially unique function and characteristics of scholarships and fellowships themselves."

259. ———. Taxes and the Professor: Four Topics. *American Association of University Professors Bulletin* 46: 392–96, Winter 1960. (*Author:* Associate Professor of Law, Wayne State University.)

Discusses Federal income tax policies applicable to (1) prizes and awards, (2) scholarships and fellowships, (3) retirement benefits and deferred compensation, and (4) expenses of education and research.

260. GROSS, PAUL M. Some Aspects of Federal Support of Higher Education. In Association of Graduate Schools, *Journal of Proceedings and Addresses.* 11th Annual Conference, 1959. p. 75–82. (*Author:* Vice President, Duke University.)

A discussion of some of the problems attendant upon increased Federal support of higher education and a plea for acceptance of this support while guarding institutional freedom.

261. HALL, CLYDE C. Scientific Research in the United States and the National Science Foundation. In National Council for the Social Studies, *Science and the Social Studies.* 27th Yearbook, 1956–57. Ed. by Howard H. Cummings. Washington: The Council, 1957. p. 49–68. (*Author:* Public Information Officer for the National Science Foundation.)

An account of the historical background, origins, establishment, organization, purposes, and activities of the National Science Foundation.

262. HARMON, LINDSEY R. *Fellowship Selection Research: A Four-Year Progress Report.* National Academy of Sciences–National Research Council Publication 564. Washington: The Council, 1958. 37 p. (*Author:* Director of Research, Office of Scientific Personnel, National Academy of Sciences–National Research Council.)

Historical and topical survey of the National Science Foundation fellowship program, for which the Office of Scientific Personnel of the Academy-Research Council conducts the selection phases. The report reviews candidate standards, selection procedures, and follow-up evaluation of the results, for the 4-year period, 1952–1956.

263. HENRY, DAVID D. The Role of the Federal Government in Higher Education. *Educational Record* 40:197–203, July 1959. (*Author:* President, University of Illinois.)

Argues that both public and private higher education should unite in support of a Federal program of grants for academic buildings and equipment in the amount of $750 million a year for 10 years.

264. KAPLAN, NORMAN. Research Overhead and the Universities. *Science* 132:400–04, Aug. 12, 1960; Reply by L. A. DuBridge, with rejoinder. 132: 1746–49, Dec. 9, 1960. (*Author:* Assistant Professor of Sociology, Cornell University.)

Argues that reimbursement of full overhead costs for basic research "may partially alleviate the financial plight of the universities. But such action will not solve their financial problems. Nor will it solve the problems of research policies of the universities or the federal government."

265. KELLY, HARRY C. National Science Foundation Programs in Science Education. *Higher Education* 15:33–36, October 1958. (*Author:* Assistant Director for Scientific Personnel and Education, National Science Foundation.)

Characterizes enlarged programs of various types for prospective and employed college teachers. Includes predoctoral fellowships, summer study programs, cooperative graduate fellowships, and institutes for training technical school faculties.

266. ———. National Science Foundation Programs of Aid to Education. With discussion. In Association of Graduate Schools, *Journal of Proceedings and Addresses.* 11th Annual Conference, 1959. p. 95–100. (*Author:* Associate Director, Scientific Division, National Science Foundation.)

Brief review of some current programs and problems.

267. ———. National Science Foundation Support for Education in the Sciences. *Higher Education* 16:6–13, October 1959. (*Author:* See above.)

Describes the objectives, principles of operation, methods of administration, and scope of program activities of the Foundation's Division of Scientific Personnel and Education. Then describes the activities carried on under the Division's five programs: viz, (1) fellowships, (2) institutes, (3) special projects in science education, (4) course content improvement, and (5) scientific manpower studies and the National Register of Scientific and Technical Personnel.

268. ———. The National Science Foundation's Programs in Education in the Sciences. *Educational Record* 38: 91–99, April 1957. (*Author:* Assistant Director for Scientific Personnel and Education, National Science Foundation.)

States six principles underlying NSF's activities in support of education in the sciences; reviews NSF fellowship, institute, and other experimental programs; and points out several problems in supporting the sciences which remain to be solved.

269. ———. The Programs of the National Science Foundation for Education in the Sciences. In *Proceedings of the Midwest Conference on Graduate Study and Research.* 15th Annual Meeting, 1959. p. 39–48. (*Author:* See above.)

Outlines the areas of interest, objectives, principles of operation, and program activities of the Division of Scientific Personnel and Education of the National Science Foundation. "As we have been able to study the needs of science education more carefully, we have become even more convinced that a major share of our attention must be on problems at the graduate level."

270. ——— *and* SAWYER, RALPH A. Report on National Science Foundation Fellowship Program. With discussion. In Association of Graduate Schools, *Journal of Proceedings and Addresses.* 10th Annual Conference, 1958. p. 16–23. (*Authors:* (1) See above; (2) Dean, School of Graduate Studies, University of Michigan.)

A discussion of the rules and operations of the new NSF Cooperative Fellowship Program.

271. KIDD, CHARLES V. *American Universities and Federal Research.* Cambridge, Mass.: The Belknap Press of Harvard University Press, 1959. 272 p. (*Author:* Chief, Office of Research and Planning, National Institutes of Health.)

An exposition of the effects of Federal financing of research upon the operations of universities and upon the relations between Government and the universities. "The central thesis . . . is that large-scale federal financing of research has set in motion irreversible forces that are affecting the nature of universities, altering their capacity to teach, changing their financial status, modifying the character of parts of the federal administrative structure, establishing new political relations, and changing the way research itself is organized." Includes results of a questionnaire study of opinions of 100 department heads and 31 graduate deans concerning effects of Federal research funds on the training of graduate students (p. 135-40).

272. ———. New Government-Uni-

versity Relationships in Research. *Higher Education* 16:3–6, 18–19, April 1960. (*Author: See* above.)

"The new [post-World War II] Federal role in [university] research arises from a scale of support so vast as to bring qualitative as well as quantitative changes, from the variety of fields supported, the vitally important new mechanisms for support, and the number of Federal agencies involved. It arises also from a wide variety of indirect effects on teaching and learning, and on the financing and administration of universities." Sketches the nature and magnitude of the forces at work, notes some of the major effects, and poses some questions for the future.

273. KILLIAN, JAMES R., JR. Science and Public Policy. *Science* 129:129–36, Jan. 16, 1959. (*Author:* Special Assistant to the President for Science and Technology.)

Summarizes developments in Federal scientific policy since Sputnik, then discusses in detail the organization and activities of the President's Science Advisory Committee. Includes description of the work of the Committee's panel on science and engineering education.

274. KNIGHT, DOUGLAS M., *ed. The Federal Government and Higher Education.* Englewood Cliffs, N. J.: Prentice Hall, Inc., 1960. 205 p. (*Author:* President, Lawrence College, Wisconsin.)

A study in five chapters of the nature and extent of the Federal Government's participation in higher education, consisting of a chapter on the history and present status of federal policies and programs by Charles A. Quattlebaum, a chapter on Federal sponsorship of research by James McCormack and Vincent A. Fulmer, a chapter on the issues and problems involved in Federal aid to higher education now and in the near future by John A. Perkins and Daniel W. Wood, and introductory and concluding chapters by the editor on the purpose of higher education and the coordination of national goals and the planning of Federal programs. The chapter by McCormack and Fulmer, Federal Sponsorship of University Research (p. 76–139), is a penetrating critical analysis of the organizational and financial framework of Government-university relationships in project research. The volume served as required background reading for the 17th American Assembly at Arden House, Harriman, N.Y., May 5–8, 1960. The Assembly's Final Report is appended (p. 193–99).

275. LINDQUIST, CLARENCE B. Federal Civilian Education Programs in the Natural Sciences. *Higher Education* 14:125–29, 143–48, April-May 1958. (*Author:* Chief for Natural Sciences and Mathematics, Division of Higher Education, U. S. Office of Education.)

Describes educational programs supported or administered directly by Federal agencies, including the National Science Foundation, the Atomic Energy Commission, the National Bureau of Standards and Department of Agriculture Graduate Schools, the Public Health Service (and its National Institutes of Health), the Office of Vocational Rehabilitation, the Veterans Administration, and the Departments of Agriculture, State, Commerce, and Interior.

276. LITTLE, J. KENNETH. Federal Programs in a State University. *Higher Education* 27:3–6, 18, October 1960. (*Author:* Director, Survey of Federal Programs in Higher Education, U. S. Office of Education.)

Illustrates the growing interdependence of the Federal Government and major institutions of higher education by describing the extent of participation in Federal programs of one complex State university. "The picture described here dramatizes the rapidly expanding dimension of research and the strong direct influence of Federal programs upon graduate and professional education."

277. ———. The Title X Study of Federal Activities in Higher Education. *Higher Education* 16:7–9, March 1960. (*Author:* See above.)

Describes aims and procedures of a study, authorized under Title X of the National Defense Education Act, of Federal programs affecting institutions of higher education, of the impact of these programs, and of ways and means to prevent these programs from weakening the educational programs and objectives of the institutions.

278. MACHLUP, FRITZ. Can There Be Too Much Research? *Science* 128:1320–25, Nov. 28, 1958. (*Author:* Professor of Political Economy, The Johns Hopkins University.)

Presents an economic argument against devoting a disproportionate share of national income to industrial research and development at the expense of capital investment or (especially) liberal education and basic research.

279. MOORE, C. H. The National Defense Education Act After 18 Months. *School Life* 42:29–35, February 1960.

(*Author:* Assistant to the U. S. Commissioner of Education for the National Defense Education Act.)

A title-by-title review of the programs established under the Act, including the graduate fellowship and language development programs.

280. Muirhead, Peter P. National Defense Education Act Progress at Midpoint. *Higher Education* 16:8-11, May 1960. (*Author:* Director of the Financial Aid Branch, Division of Higher Education, U. S. Office of Education.)

A discussion of the effectiveness to date of the four higher education programs established under the National Defense Education Act of 1958.

281. The National Defense Graduate Fellowship Program. *Association of American University Professors Bulletin* 44:778–79, December 1958.

A summary of the origins, purpose, terms, procedures, and administration of the Graduate Fellowship Program established under Title IV of the National Defense Education Act of 1958.

282. National Science Foundation. Federal Contract Research Centers in Colleges and Universities, Fiscal Year 1958. *Reviews of Data on Research and Development,* No. 23. NSF 60–61. Washington: The Foundation, 1960. 4 p.

Describes the nature and scope of Federal university research centers and analyzes their expenditures, their sources of support, the fields of science supported, and the types of research conducted during 1957–58.

283. ———. *Federal Financial Support of Physical Facilities and Major Equipment for the Conduct of Scientific Research: A Report to the Bureau of the Budget.* Washington: The Foundation, June 1957. 83 p.

Sets forth in considerable detail the present status and future financial needs of facilities in the United States for basic research in the sciences, including college and university laboratories and equipment. Discusses problems of policy and administration in Federal support for construction and procurement of research facilities. Makes recommendations concerning Federal aid to higher education generally, and, in particular, concerning applied research at colleges and universities, college and university research laboratories, and support of facilities at smaller institutions.

284. ———. *Federal Funds for Science, VIII: The Federal Research and Development Budget, Fiscal Years 1958, 1959, and 1960.* NSF 59–40. Washington: U. S. Government Printing Office, 1959. 74 p.

Eighth in a series of publications begun in 1953 on Federal Government expenditures and obligations for scientific research and development, both for work performed within the Government's own installations and for work performed by non-Federal agencies. Intended to "provide a basis for a measurement of the nation's [Federal] investment in research and development." Analyzes expenditures by administering agencies, organizations performing the work, character of the work (i.e., research or development), and fields of science concerned. "From fiscal year 1958 to fiscal year 1959 obligations for educational institutions proper are estimated to have increased 35 percent, rising from about $280 million to $380 million. An additional increase of just under 20 percent, which will advance such obligations to $450 million, is anticipated in fiscal year 1960." Extensive analytical and historical tabulation in appendix.

285. ———. *Federal Support for Science Students in Higher Education, 1954.* NSF 56–18. Washington: U. S. Government Printing Office, 1956. 33 p.

A report of Federal programs aiding students of the sciences at the college and university level in 1954. See especially the section dealing with "Federal Financial Support for Graduate and Postdoctoral Students in the Sciences," p. 10-19.

286. ———. *Government-University Relationships in Federally Sponsored Scientific Research and Development.* NSF 58–10. Washington: U. S. Government Printing Office, 1958. 44 p.

Describes "the evolution of Federal sponsorship of research and development at colleges and universities and indicates the current nature, trends, and magnitude of this financial support. Problem areas of Government-university relationships, as identified by university scientists and administrators and by Federal agencies, are discussed and recommendations are submitted for the consideration and possible guidance of Federal agencies."

287. ———. *Ninth Annual Report, 1959.* Washington: U. S. Government Printing Office, 1960. 274 p.

The annual report of NSF program activities. As in the reports for 1956–57 and 1957–58, briefly reviews the status of science in the United States, then summarizes year's activities in each of the Foundation's programs. Appendixes list staff, committee, and advisory panel memberships, research and fellowship grants, and publications for the year.

288. National Support for Behavioral Science. *Behavioral Science* 3:217–27, July 1958.

A statement by a group of 15 prominent behavioral scientists setting forth the nature, range of activities, personnel and support, program and material needs, and contributions of the behavioral sciences, and recommending increased attention and support for this area of research on the part of the Federal agencies most concerned.

289. Oliver, William W. Treatment of Fellowship Grants Under the Federal Income Tax. *American Association of University Professors Bulletin* 43: 65–68, March 1957. (*Author:* Assistant Professor of Law, Indiana University.)

Discusses Internal Revenue Service statutes and rulings regarding tax deductions of fellowship and research grants by candidates for degrees and by persons not candidates for degrees.

290. Perkins, John A. Financing Higher Education: Perspectives and Possibilities. In Association of Graduate Schools, *Journal of Proceedings and Addresses*. 10th Annual Conference, 1958. p. 71–81; Same, adapted. *Educational Record* 40:99-107, April 1959. (*Author:* President, University of Delaware.)

Sketches the historical and philosophical backgrounds of American attitudes toward public support of education, particularly higher education, then argues the case for "Jefferson's and Lincoln's public support approach to securing the needed funds for higher education." Adds that greater emphasis should be placed upon support for graduate (rather than undergraduate) education: "I wonder if we can much longer *have* undergraduate education of real quality unless it is given in conjunction with graduate teaching and research. A quality faculty seemingly will not otherwise be had. In short, more great universities are needed."

291. Peterson, Walter J. New National Programs in Science Education. In University of Michigan, *Addresses Given at the Annual Conference on Higher Education in Michigan, 1958.* Ann Arbor: The University, 1959. p. 30–43; Same. *School Science and Mathematics* 59:255–65, April 1959. (*Author:* Head, Special Projects, Science Education Section, National Science Foundation.)

Reviews some of the principles by which the National Science Foundation has been guided in developing its educational programs, and describes new programs which the Foundation is undertaking and old programs which are being appreciably expanded.

292. Price, Don K. *Government and Science: Their Dynamic Relation in American Democracy.* New York: New York University Press, 1954. 203 p. (*Author:* Deputy Chairman, Research and Development Board, Department of Defense, 1952–53.)

A study of the relationship between science and the Federal Government, especially of the processes by which on the one hand, science has been brought into intimate involvement in the formulation of public policy without usurping executive responsibility for political decision, and, on the other hand, political (particularly military) requirements have made science in great part a servant of government without jeopardizing the independence and authority of scientific judgment.

293. Quattlebaum, Charles A. *Federal Aid to Students for Higher Education.* Prepared for the House Committee on Education and Labor, 84th Congress, Second Session. Washington: U.S. Government Printing Office, 1956. 191 p. (*Author:* Specialist in Education, Legislative Reference Service, Library of Congress.)

A comprehensive survey of Federal financial aid programs. Reviews historical development of Federal policies in higher education, recent and current proposals and related statements, and recent studies bearing on the question of Federal assistance to students. Presents arguments *pro* and *con*. Describes existing Federal programs (principally graduate, veteran, and military education programs) and State-financed scholarship programs. A final chapter describes student-aid programs of foreign governments.

294. ———. *Federal Educational Policies, Programs and Proposals: A*

Survey and Handbook. Prepared for the House Committee on Education and Labor, 86th Congress. 3 vols. Washington: U. S. Government Printing Office, 1960. 192, 372, and 234 p. (*Author:* See above.)

Three parts in separate volumes. Part I, *Background; Issues; Relevant Considerations,* discusses the evolution of Federal policies in education and the history and functions of the Office of Education, summarizes policy recommendations of numerous advisory commissions, governmental agencies, and private organizations, and describes the educational issues and bills before the 86th Congress. Part II, *Survey of Federal Educational Activities,* is an agency-by-agency survey of Federal educational activities, describing each agency's programs individually, including funds obligated for fiscal year 1959. Part III, *Analysis and Classification of the Programs,* presents an overall analysis of Federal educational activities by (1) methods of administration, (2) levels of education concerned, (3) geographical areas affected, and (4) number and types of persons affected, then describes each agency's programs individually under these headings.

295. Richardson, Elliot L. Federal Assistance to Graduate Education and Research. In *Proceedings of the Midwest Conference on Graduate Study and Research.* 15th Annual Meeting, 1959. p. 32–38. (*Author:* Assistant Secretary of Health, Education, and Welfare.)

The National Defense Education Act " . . . is a significant milestone in Federal assistance to graduate education. It marks a major step away from the purchase-of-services approach to graduate education and toward an acknowledgment of the vital dependence of our Nation's future on the development of its best brains in every field of advanced study."

296. Rosenzweig, Robert M. The NDEA and Graduate Education. *Higher Education* 27:10–12, November 1960. (*Author:* Program Officer, Graduate Fellowship Section, Division of Higher Education, U. S. Office of Education.)

A discussion of two features of the graduate fellowship program of the National Defense Education Act: (1) its intention to promote widespread geographic distribution of facilities for graduate study, and (2) its coverage of all fields of study.

297. Social Legislation Information Service, Inc. *Federal Agencies Financing Research.* Washington: The Service, 1346 Connecticut Ave., NW, 1959. 21 p. (Processed.); Same. 1958. 23 p.

Designed to guide an investigator to the Federal agency supporting research in the field of his special competence. Reports upon agencies in alphabetical order, giving summary descriptions of their research programs and award procedures. An index lists fields and indicates agencies sponsoring research in each field.

298. Tax Deductibility of Doctoral Expenses. *American Association of University Professors Bulletin* 44:495–96, June 1958.

Discusses recent decision of U. S. Court of Appeals for New York and Connecticut holding "that the cost of obtaining a Ph.D. degree, or similar expenses, can be deducted for Income Tax purposes, if these expenses are required for the tax payer to continue in the employment producing the income subject to tax. . . ."

299. U. S. Bureau of the Budget. *Principles for Determining Costs Applicable to Research and Development under Grants and Contracts with Educational Institutions.* Circular No. A-21, revised. Washington: The Bureau, Jan. 7, 1961. Attachment A, 10 p.; Attachment B, 10 p. (Processed.)

A Bureau of the Budget memorandum to heads of U. S. executive departments and establishments. "This Circular provides the basis for a uniform approach to determining the costs applicable to research and development performed by educational institutions under grants from and contracts with the Federal Government. The principles and related policy guides provided herein are designed for Government-wide use. All Federal agencies that sponsor research and development work at educational institutions are requested to apply these principles and related policy guides to the fullest extent practicable in determining the amounts to be authorized under grants or contracts for such work and in developing budget estimates therefor." Attachment A provides general principles for determining direct and indirect costs in research agreements. Attachment B discusses standards to be applied in determining selected specific items of cost.

300. U. S. 85th Congress, First Session. Joint Committee on Atomic Energy. *Development of Scientific, Engineering, and Other Professional Manpower (With Emphasis on the Role*

of the Federal Government). Washington: U.S. Government Printing Office, 1957. 172 p.

A report prepared by the Legislative Reference Service of the Library of Congress in order "to provide a broad, analytic, informational base for congressional determination of the future role of the Federal Government in the production of scientific, engineering, and other professional manpower. . . . The report brings together, digests, and summarizes recent statistical studies and published opinions bearing on the subject. It reviews the historic role of the Federal, State, and local governments in education, particularly of professional personnel, emphasizing considerations of policy and precedent. It describes the present contributions made by Federal agencies and by national nongovernmental organizations toward professional manpower development."

301. U. S. DEPARTMENT OF HEALTH, EDUCATION AND WELFARE. *Federal Funds for Education, 1956–57 and 1957–58*. Prepared by Albert R. Munse and Edna D. Booher. Office of Education Bulletin 1959, No. 2. Washington: U.S. Government Printing Office, 1959. 204 p.

Fourteenth biennial survey of expenditures by Federal departments and agencies for education or for programs in educational institutions financed through Federal funds. Tabulations of amounts expended and brief descriptions of activities supported are given for each department and agency. Introductory chapter analyzes expenditures by level and type of program (higher education, research in educational institutions, international education, and others) and by State, and compares biennial figures since 1948–49.

302. ———. *Guide to the National Defense Education Act of 1958*. Revised edition. By Theodora E. Carlson and Catherine P. Williams. Washington: U.S. Government Printing Office, September 1959. 27 p.

Describes, title by title, the purposes, scope, and operations of the programs established under the Act, including the National Defense Graduate Fellowship Program authorized in Title IV.

303. U. S. PRESIDENT'S COMMITTEE ON EDUCATION BEYOND THE HIGH SCHOOL. *Second Report to the President*. Washington: U.S. Government Printing Office, 1957. 108 p.

Final report of the Committee. Includes "Summary Report" of findings and recommendations and five chapters of extended discussion: (1) The Need for Teachers, (2) The Need for Assistance to Students, (3) Expansion and Diversity of Educational Opportunities—the Need for Planning, (4) Financing Higher Education, (5) The Federal Government and Education Beyond the High School. Chapter I discusses the estimated needs for college teachers and recommends "that recruitment efforts be reinforced by fellowship programs and financial assistance to graduate schools." Chapters IV and V discuss Federal research contracts and grants. The Committee recommends that the Federal Government "implement a consistent and equitable policy for the payment of full costs, including indirect costs to the institutions, of Federal contract research programs. . . ."

304. U. S. PRESIDENT'S SCIENCE ADVISORY COMMITTEE. PANEL ON BASIC RESEARCH AND GRADUATE EDUCATION. Glenn T. Seaborg, chairman. *Scientific Progress, the Universities, and the Federal Government*. Washington: U.S. Government Printing Office, 1960. 33 p.; Same, abridged. *Higher Education* 17, No. 4:3–17, Dec. 1960.

"This paper is a brief statement on a large set of problems: the problems which center on the advancement of science by basic research, and the making of scientists by graduate education. . . . We have tried to state clearly the fundamental character of the environment which is required for scientific progress *and* for the making of good young scientists. We then consider the way in which these requirements should affect the policies of both the Federal Government and the universities . . . ." Recommend a rapid increase in Federal support for basic scientific research and for graduate education *pari passu*, particularly support extended over long terms and for broad objectives, leaving responsibility for research operations to the universities.

305. ———. PANEL ON SCIENCE AND ENGINEERING EDUCATION. Lee A. DuBridge, chairman. *Education for the Age of Science*. Washington: U.S. Government Printing Office, 1959. 37 p.

Recommendations for improving the teaching and learning of science and increasing the national supply of scientists and engineers at all levels. Concludes with recommendations for improving graduate education. Calls for more top-quality graduate departments, particularly in engineering, for the encouragement of interdisciplinary research, for a higher production of Ph.D.'s, and for a reexamination of the terms of research support by Government agencies with a view toward making the research more effective for the education of students and the attraction and retention of able faculty members.

306. WATERMAN, ALAN T. NATIONAL SCIENCE FOUNDATION: A Ten-Year Résumé. *Science* 131:1341–54, May 6, 1960. (*Author:* Director of the Foundation.)

A review of the National Science Foundation's purposes, programs, and accomplishments, the development of its policies, and the clarification of its role in Federal scientific activities, with particular emphasis upon the period since the appearance of Wolfle's article (NSF: *The First Six Years*, see no. 312) in August, 1957.

307. WEAVER, JOHN C. Federal Aid to Research and Graduate Education. In Association of Graduate Schools, *Journal of Proceedings and Addresses*. 10th Annual Conference, 1958. p. 82–93; Same (adapted). *Journal of Higher Education* 30:146–54, March 1959; *Graduate Journal* 2:42–53, spring 1959. (*Author:* Dean of the Graduate College, University of Nebraska.)

A discussion of dangers inherent in sponsored research and in fellowship programs, particularly the National Defense Graduate Fellowship Program. Finds sponsored research leading to imbalanced allocation of university funds and hence to imbalance in the academic enterprise, to a loss of freedom in research for the faculty and to an unfavorable environment for training creative graduate students, and to a diversion of outstanding scholars from their teaching function. Finds the restriction of the National Defense Graduate Fellowship Program to "new or expanded" programs an invitation to thin-out existing resources rather than to strengthen them; advocates block grants to graduate schools for use at their own discretion.

308. ———. What Federal Funds Mean to the Universities Today. *Annals of the American Academy of Political and Social Science* 327:114–22, January 1960. (*Author:* See above.)

One of a collection of essays on "Government and Science" (*see* No. 310). Argues that there is nothing basically wrong with Federal aid to universities, either theoretically or practically, but that "it is bringing with it a whole new way of academic life, and there are a variety of influences calling for thoughtful caution and wary appraisal as the transforming tide rolls over our scholarly community." Points out the dangers of taking on more sponsored research than can be afforded, placing disproportionate emphasis upon the natural sciences, the loss of self-direction in research, ignoring basic for the sake of applied research, losing institutional diversity under the standardizing pressures of Federal aid, robbing graduate students of the experience of independent research, diverting faculty members from teaching, and of inventing or expanding programs in order to qualify for aid when existing programs need strengthening.

309. WEAVER, WARREN. The Encouragement of Science. *Scientific American* 199:170–78, September 1958. (*Author:* Vice President and Director of the Division of Natural Sciences and Agriculture, the Rockefeller Foundation.)

Discusses present conditions of Federal support of university research, finding them detrimental in many ways to the encouragement of sound and creative development of science.

310. WENGERT, NORMAN, *ed.* Perspectives on Government and Science. *Annals of the American Academy of Political and Social Science* 327:1–138, January 1960. (*Author:* Professor of Public Administration, University of Maryland.)

Contains 15 articles of diverse authorship, "exploring the subject of government and science and . . . laying a foundation for an understanding of some of the complex policy and administrative problems in this critical field of national interest." Includes discussions of the national framework of scientific activity, the national interest in scientific research, Federal planning and administration of research, and Federal support of science in the universities. Separate articles are devoted to descriptions of the research programs of the U. S. Department of Agriculture, the National Institutes of Health, and the National Science Foundation. An article by John C. Weaver, What Federal Funds Mean to the Universities Today, is annotated separately (*see* No. 308).

311. WHALEY, W. GORDON. The Coat of Mail. *Graduate Journal* 3:161–66, fall 1960. (*Author:* Dean of the Graduate School, University of Texas.)

Argues that the National Defense Graduate Fellowship Program should not be limited to "those areas of science and technology from which we now expect advances in military techniques to emerge. If such a program is to succeed it must also encompass areas that will develop the ideas for which we may be respected and the concomitant values, the support of which is necessary to a true purpose."

312. Wolfle, Dael. National Science Foundation: The First Six Years. *Science* 126:335–43, Aug. 23, 1957. (*Author:* Executive Officer, American Association for the Advancement of Science.)

A judicious review of the functions, structure, growth, operations, policies, and prospects of the National Science Foundation. (For a review of developments since 1957, *see* No. 306.)

See also Nos. 64, 65, 66, 67, 92, 162, 175, 211, 213, 329, 343, 363, 397, 405, 411, 413, 424, 468, 508, 730, 775, 818, 830, 838, 867.

c. Non-Federal Support

313. Boys, Richard C. Woodrow Wilson Fellowship Program: Annual Report. With discussion. In Association of Graduate Schools, *Journal of Proceedings and Addresses.* Ninth Annual Conference, 1957. p. 8–27. (*Author:* National Director of the Program.)

Describes the new, expanded Woodrow Wilson Fellowship Program, and discusses several matters pertinent to the operation of the program. Discussion centers upon two problems: (1) the use to be made of the grant to the graduate school which accompanies each fellowship award, and (2) how to effect a sufficiently wide choice of institutions by the fellows.

314. Bunting, J. Whitney. Industry and the Graduate School. *Educational Record* 40:301–11, October 1959. (*Author:* Consultant, Higher Education Relations, General Electric Co.)

Discusses the value of graduate schools of arts and science to industry, the impact of industry on graduate education and the problems of competition and cooperation, and the technique of industrial aid to graduate education. Based on a questionnaire and interview survey of 40 graduate schools. "There appears to be no conflict between graduate schools and business and industry in the overall recognition of common interest. There is rather a recognition that both must work and plan together for a strengthening of graduate education *per se.* . . ."

315. Burkhardt, Frederick. Program of the American Council of Learned Societies. In Association of Graduate Schools, *Journal of Proceedings and Addresses.* 11th Annual Conference, 1959. p. 101–03. (*Author:* President of the Council.)

Brief overview of continuing activities and new developments in the work of the ACLS.

316. ———. Some Projects in the Humanities. In *Proceedings of the Midwest Conference on Graduate Study and Research.* 14th Annual Meeting, 1958. p. 19–27. (*Author:* See above.)

Accounts of four of the major current projects of the ACLS: awards in support of fundamental research, a study of the problems of scholarly publication, an attempt to revive communication between scholarship and secondary education, and the support of American delegates to international conferences and sponsorship of international conferences in this country. Followed by brief survey of other activities.

317. Cleaveland, Frederic N. *Science and State Government: A Study of the Scientific Activities of State Government Agencies in Six States.* Chapel Hill: University of North Carolina Press, 1959. 161 p. (*Author:* Research Professor in the Institute for Research in Social Science, University of North Carolina.)

A comparative and summary report of the findings of six separate studies of the scientific research and related activities of State government agencies in California, Connecticut, New Mexico, New York, North Carolina, and Wisconsin during fiscal year 1954. Analyzes dollar and manpower investment in scientific endeavors by area of activity (i.e., agriculture; resource development and public works; health, education, and welfare; and the State universities), character of research, field of science, and sources of funds (chiefly State government and Federal). Also discusses administration and organization of State scientific activities and State-Federal relations.

318. Dow, Blanche H. The Fellowships Program: A Faith Restated. *Journal of American Association of University Women* 53:183–86, March 1960. (*Author:* Chairman, American Association of University Women Fellowships Program.)

Restates philosophy underlying the AAUW Fellowship Program, as expressed in 1935 by

Katherine Gallagher, former Program Chairman.

319. **Eckelberry, R. H.** A Notable Program for the Improvement of Teaching. *Journal of Higher Education* 28: 397–98, October 1957. (*Author:* Editor, the *Journal.*)

Describes and commends the Danforth Teacher Study Grant Program, which provides the financial means for selected college and university teachers to continue or complete their doctoral studies.

320. Fellowships for Potential College Teachers: Woodrow Wilson Program Expanded. *Higher Education* 13: 165, May 1957.

Reports the expansion of the National Woodrow Wilson Fellowship Program under subvention of the Ford Foundation.

321. **Fleege, Urban H.** On Securing Foundation Support. *National Catholic Educational Association Bulletin* 54:7–32, November 1957. (*Author:* Head, Department of Education, De Paul University, Chicago.)

"The average college or university faculty member is likely to be confused by the thousands of philanthropic organizations that have been established in recent years. . . . The following notes are offered in the hope of simplifying somewhat the foundation-corporation-giving picture and of indicating how projects might be presented for foundation support." Describes kinds of foundations, their policies in giving, their fields of activity and types of grants; and discusses the preparation and presentation of applications for foundation support. Includes a bibliography of 71 items.

322. Graduate Fellowships and Scholarships. *School and Society* 85:205–06, June 8, 1957.

Cites statement of policy by Dean Jacques Barzun of Columbia University that the element of need should no longer be an important criterion in awarding scholarship-fellowship aid at the graduate level.

323. **John Simon Guggenheim Memorial Foundation.** *1957 and 1958 Reports of the Secretary and of the Treasurer.* New York: The Foundation, 1959. 470 p.

In addition to short reports by the Secretary and Treasurer of the Foundation, contains brief biographies of the recipients of the 746 Guggenheim Fellowships awarded during the biennium under review, and an index of Fellows and the studies proposed by each since the first awards in 1925.

324. **Kiger, Joseph C.** The Four Councils. *Educational Record* 39:367–73, October 1958. (*Author:* Associate Professor of History, Birmingham Center, University of Alabama.)

Brief accounts of the origins, purposes, and activities of the American Council on Education, the American Council of Learned Societies, the National Academy of Sciences–National Research Council, and the Social Science Research Council.

325. **Logan, Edgar.** Would You Be Interested in a Year of Study on Full Pay? *Clearing House* 32:86–88, October 1957. (*Author:* Former John Hay Fellow.)

Describes the John Hay Fellowships for high school teachers, which provide stipends equivalent to a year's salary, plus tuition costs and transportation, and are to be used for a year of graduate study at Yale or Columbia in areas of the humanities broadly related to the recipient's teaching subject.

326. **McCoy, Pressley C.** The Danforth Teacher Study Grant Program. *Educational Record* 38:368–70, October 1957; Same, condensed. *Association of American Colleges Bulletin* 43:456–58, October 1957; *School and Society* 86: 14–15, January 4, 1958. (*Author:* Assistant Director, Danforth Foundation.)

Describes the objectives, criteria, procedures, and achievements of the Danforth Foundation Teacher Study Grant Program, through which 50 to 70 grants are made each year to young promising college teachers who have had at least 1 year of graduate study and who are prepared to devote 12 months toward the completion of their doctorates.

327. **Mattingly, Richard C.** Institutional Graduate Fellowship Programs. *Higher Education* 15:48–53, November 1958. (*Author:* Research Assistant, Division of Higher Education, U. S. Office of Education.)

A summary of data reported in author's *Financial Aid for College Students: Graduate* (No. 340) on institutional fellowships awarded during 1955–56. Discusses types of institutions awarding fellowships, the top 50 institutions in amount of fellowship expenditures, sources of fellowship funds, ratio of fellowships to enrollments, size of fellowship stipends, and number and amount of fellowships in each of the major fields of study. Extensive tabular analyses.

328. Pray, Francis C. Let's Invest in Scholarship. *American Association of University Professors Bulletin* 45: 66–69, March 1959. (*Author:* Vice President for College Relations of the Council for Financial Aid to Education.)

Proposes that "at least a portion of the funds available [for academic travel and professional improvement and research] be segregated as an investment in scholarship and professional improvement, and be allocated to each individual faculty member according to a fixed proportion of his base salary."

329. Rosenhaupt, Hans. Report of Woodrow Wilson National Fellowship Program. In Association of Graduate Schools, *Journal of Proceedings and Addresses.* 10th Annual Conference, 1958. p. 60–70. (*Author:* National Director of the Program.)

Describes the new organization of the Foundation and presents tabular reports on the progress of 1957–58 fellows and on the selection and distribution of 1958–59 fellows. Discusses various problems and accomplishments in selecting and recruiting. Reviews policies regarding limitations upon number of fellows at a single institution, use of accompanying grants to the graduate schools, and the award of institutional stipends to Foundation fellows. Comments upon the National Defense Graduate Fellowship Program.

330. ———. Report of the Woodrow Wilson National Fellowship Foundation. With discussion. In Association of Graduate Schools, *Journal of Proceedings and Addresses.* 11th Annual Conference, 1959. p. 104–15. (*Author:* See above.)

Reports distribution of fellows by institution and field. Discusses several points of policy. Mentions recent effort to interest National Merit Scholarship winners in college teaching, and a planned study of recipients of other fellowships who had not been nominated by a Woodrow Wilson Regional Selection Committee or had not competed for a Foundation fellowship at all. Also reports availability of a mimeographed study of colleges chosen by National Merit Scholarship winners and colleges of origin of Woodrow Wilson and National Science Foundation fellows.

331. Search for Professors. *Time* 75: 43–44, Mar. 21, 1960.

A description of the Woodrow Wilson National Fellowship Program. "On the U.S. campus today the Woodrow Wilson Fellowship is fast becoming a domestic version of the Rhodes Scholarship—a peak of academic distinction."

332. Tryon, Ruth W. For Women Scholars—Incentives. *Journal of the American Association of University Women* 50:218–20, May 1957. (*Author:* Editor of the *Journal.*)

Describes the establishment and current status of the American Association of University Women fellowship programs.

333. ———. *Investment in Creative Scholarship, 1890–1956.* Washington: American Association of University Women, 1957. 228 p. (*Author:* Former Director of Publications and Public Relations for the Association.)

A historical account of the American Association of University Women national and international fellowship programs and of the careers of fellowship recipients, based on fellowship office files and questionnaires sent to all living recipients of awards in 1954.

334. Western Interstate Commission for Higher Education. *Yardsticks and Formulas in University Budgeting.* Boulder, Colo.: The Commission, 1959. 69 p.

Reports practices in using formulas to determine appropriations for State institutions of higher education in Texas, Oklahoma, California, Colorado, and Washington. Discusses problems and dangers in using formulas for this purpose.

See also Nos. 65, 66, 67, 79, 87, 91, 155, 213, 232, 248, 255, 293, 300, 396, 405, 424, 730, 818, 872.

d. Student Assistance, Fees, and Fellowship Directories

335. Advancement and Placement Institute. *World-Wide Graduate Award Directory, 1957–1959.* 3 vols. N.Y.: The Institute, Box 99, Green-

point Station, Brooklyn 22, 1957, 1958, 1959. 28, 34, 54 p.

Listings of graduate fellowship, assistantship, and research awards available from institutions (primarily) and foundations, listed by country or state where tenable. Gives full particulars for each award. Volumes published annually in October, but do not duplicate previous listings. "The Graduate Award Directories do not assume to be complete as awards are always changing and new opportunities are becoming available every day."

336. ANGEL, JUVENAL L. *National Register of Scholarships and Fellowships, 1958–59.* Vol. 2: *Fellowships and Grants.* Second edition. New York: World Trade Academy Press, Inc., 3 East 48th St., New York 17, 1958. 232 p. (*Author:* Director, Modern Vocational Trends Bureau.)

Contains "all available facts on fellowships and grants in more than 80 separate professions. . . . The fellowships and grants have been classified according to profession and listed under the sources which can offer the greatest amount of information concerning eligibility, value, application, deadline dates, etc." For each source the volume lists number of fellowships, their average value, average loans to students, and part-time employment possibilities.

337. *Directory of Fellowship Sources, 1957.* Third edition. Boston, Mass.: Committee on Research and Development, Harvard University, 1957. 146 p.

Gives detailed information in six sections: (1) Predoctoral, (2) Postdoctoral, (3) Senior, (4) Faculty and Special Awards, (5) Study Abroad, and (6) Summer and Part-Time Awards.

338. FEINGOLD, S. NORMAN. *Scholarships, Fellowships and Loans.* Vol III. Cambridge, Mass.: Bellman Publishing Co., 1955. 471 p. (*Author:* Executive Director, Jewish Vocational Service of Greater Boston.)

A directory of undergraduate, graduate, and research grants and loans available from all sources other than colleges and universities themselves (e.g., industry, foundations, fraternal and professional societies, and local, State, and Federal governments). Grants are listed alphabetically, giving name and address of sponsor, qualifications, funds available, special fields of interest, and information about application procedures. A master index to grants described in volumes I (1949) and II (1951) as well as in the present volume, listing them by field of interest and vocational goals, is provided. Includes a bibliography of about 400 items, p. 383–401.

339. INSTITUTE OF INTERNATIONAL EDUCATION. *Fellowships Offered by Foreign Governments, Universities, and Private Donors, 1961–62.* New York: The Institute, 1960. 16 p.

Gives information on fellowships in Iran, Israel, Austria, Denmark, France, Germany, Italy, Netherlands, Poland, Sweden, Switzerland, United Kingdom, Canada, and Mexico.

340. MATTINGLY, RICHARD C. *Financial Aid for College Students: Graduate.* U. S. Office of Education Bulletin 1957, No. 17. Washington: U. S. Government Printing Office, 1957. 151 p. (*Author:* Research Assistant, Division of Higher Education, U. S. Office of Education.)

Lists institutional graduate fellowships, loans, and teaching and research assistantships available in each of 330 institutions in 1955–56. Gives number and average amount of loans, assistantships, and other forms of employment. Fellowships are listed separately for each field of study. Index to institutions by field of study appended.

341. SCHLITZ, MICHAEL EDMUND. *Fellowships in the Arts and Sciences, 1961–62.* Fourth ed. Prepared for the Association of American Colleges. Washington: American Council on Education, 1960. 149 p. (*Author:* Graduate student, Loyola University, Chicago, and director of the directory project.)

The function of this annual directory is "to provide a current catalogue of the specific programs of financial aid to arts and sciences graduate students available from sources other than the institutions themselves." The five chapters contain (1) advice to the fellowship applicant, (2) a listing of predoctoral fellowships, (3) a listing of postdoctoral fellowships, (4) a listing of awards for summer study, and (5) loans. Each fellowship is described in full. Bibliography, 43 items.

342. *Scholarships, Fellowships and Loans News Service.* Cambridge, Mass.: Bellman Publishing Co., bimonthly, November through May.

"A service devoted to reporting developments in student aid and research." Each issue contains editorial discussion of student financial assistance, information about funds, foundations, grants and loans, notices of relevant publications, and news notes.

343. U. S. Department of Health, Education, and Welfare. *Grant and Award Programs of the Public Health Service.* 2 vols. Washington: U.S. Government Printing Office, 1959. 19 and 48 p.

Policy and information statements on research grants and training programs of the Public Health Service and the National Institutes of Health. Volume I describes grants for (a) research projects and small-scale studies (b) field investigations in cancer and neurological and sensory disorders, (c) mental health project grants, and (d) grants for construction and equipping of health research facilities. Volume II describes (a) research fellowships, (b) training grants, and (c) direct traineeships.

See also No. 184.

7. Standards, Accreditation, Admissions Practices

For discussions of admissions, aptitude, and achievement tests, see section IV, 2.

344. Association of Graduate Schools. Committee on Administrative Problems. Report of a Study of the Resolution Concerning Scholars, Fellows, and Assistants. In *Journal of Proceedings and Addresses.* Eighth Annual Conference, 1956. p. 32–39.

Reports results of a questionnaire survey of institutions subscribing to the "Resolution Concerning Scholars, Fellows, and Assistants." Reports how students are informed of their right to wait until April 15 to accept or reject an award, and of their obligation not to accept an award thereafter without first obtaining a formal release from any previous commitment. Lists criticisms of present procedures and suggestions for improvement. Makes clear that not all institutions have subscribed to the agreement to award scholarships and fellowships on April 1.

345. ———. ———. Report. In *Journal of Proceedings and Addresses.* 10th Annual Conference, 1958. p. 55–58.

Reports results of a study of practices employed by AGS institutions in the admission of graduate students. Recommends that admissions be the responsibility of the graduate school, which should establish minimum standards, that a student rejected by one department not be admitted by another without thorough study, that ultimate authority for admissions rest with the dean, that admissions tests on a national basis be required, and that students be required to fill out as few forms as possible in applying for financial assistance and admission.

346. ———. Committee on Membership. Report. In *Journal of Proceedings and Addresses.* 11th Annual Conference, 1959. p. 25–26.

Lists ten criteria for admission to membership in the AGS and six AGS objectives to be borne in mind in considering graduate schools for future admission.

347. Blauch, Lloyd E., *ed. Accreditation in Higher Education.* Prepared for the U. S. Department of Health, Education, and Welfare. Washington: U. S. Government Printing Office, 1959. 247 p. (*Author:* Assistant Commissioner for Higher Education, U. S. Office of Education.)

Part I describes the nature and evolution of accreditation, in four chapters. Part II describes accreditation by State and regional agencies, devoting a chapter to each region. Part III describes accreditation in education for the professions, in 28 chapters, devoting a chapter to each profession. Each chapter is written by an appropriate authority. Only nationally recognized accrediting agencies and associations are described. Contents of chapters vary, but generally include a discussion of the origins and development, and the agencies, procedures, standards, costs, and accomplishments of accrediting in the area concerned.

348. Bullough, Vern L. Ph.D. From Where? *Nation* 191:180–81, September 24, 1960. (*Author*: Faculty member, Department of History, San Fernando Valley State College.)

Believes that recent proliferation of Ph.D. programs has created "as great a variation in the Ph.D. degree as Flexner found in the M.D. degree back in 1910." Proposes that, in order to establish minimal standards, "some sort of body should attempt to survey the field and make legitimate recommendations. What American graduate education needs right now is probably a second Abraham Flexner."

349. Deferrari, Roy J., *ed. Self-Evaluation and Accreditation in Higher Education.* Washington: The Catholic University of America Press, 1959. 362 p. (*Author:* Secretary-General, The Catholic University of America.)

Proceedings of a workshop conducted at The Catholic University of America, June 13-24, 1958. Part I contains 10 addresses pertaining to aspects of college administration; Part II contains 8 addresses on accreditation, including 1 by Roy J. Deferrari on "The Supervision of Evaluation in the United States" and 1 by William K. Selden on "Background of Accrediting and the National Commission on Accrediting"; Part III contains summaries of seminars on offices of college presidents and deans.

350. Dunbar, Ralph E. Staff-Study Regulations and Restrictions at the Ph.D. Level in American Universities. *Journal of Higher Education* 31:505–08, December 1960. (*Author:* Dean, School of Chemical Technology, North Dakota Agricultural College.)

Reports replies of 58 leading graduate schools to the question, "what restrictions, if any, are imposed on full-time members of your faculty wishing to become candidates for the Ph.D. degree on your campus?" Finds that "local graduate study by full-time faculty members is highly restricted, or even completely prohibited, in most reputable graduate schools."

351. McKean, Dayton D. Who's in Charge Here? *Colorado Quarterly* 6:395–408, spring 1958. (*Author:* Dean of the Graduate School, University of Colorado.)

Discusses the conflict between the universities and the professional associations over the matter of accrediting. Presents both sides of the issue, concluding that "the matter is neither all wrong nor all right but a mixture—often an exasperating mixture—of the two."

352. National Commission on Accrediting. *Accrediting of Colleges and Universities in the Coming Decade.* Report of a Conference, June 29-July 1, 1959. Edited by Dewey B. Stuit. Washington: The Commission, 1959. 30 p.

A recognition is made of the fact that no definitive statement of the proper place of accrediting has been developed and uniformly recognized. "Consequently there is need to identify the problems in accrediting, to examine its proper place and purposes, and to study ways, means and techniques whereby its policies and procedures may be improved—assuming, of course, that there is a continuing need for accreditation in American higher education."

353. Nevins, John F. *A Study of the Organization and Operation of Voluntary Accrediting Agencies.* Educational Research Monographs, Vol. 22, No. 3. Washington: The Catholic University of America Press, 1959. 403 p. (*Author:* Instructor in Religious Education, The Catholic University of America.)

A study of the six regional accrediting associations: their origins and historical development, structure and membership, evaluation procedures, standards and policies, authority, and relations with State and professional agencies. Briefly describes each association's policy regarding accreditation of graduate programs.

354. Sapienza, Samuel R. Toward a System of Evaluation in Admissions Work. *College and University* 35:41-48, fall 1959. (*Author:* Chairman of Graduate Admissions, The Wharton School, University of Pennsylvania.)

Describes a system for weighting variables in admissions decisions. "The increasing pressure on admissions officers, graduate or undergraduate, makes it imperative that a systematic approach be taken to cope with this problem."

355. Selden, William K. The AAU and Accreditation. *Graduate Journal* 2:325-33, fall 1959. (*Author:* Executive Secretary, National Commission on Accrediting.)

An account of the origins, development, and discontinuation of accrediting by the Association of American Universities. Suggests the need for renewed leadership by the AAU in the matter of standards during the 1960's.

356. ———. *Accreditation.* New York: Harper and Brothers, 1960. 138 p. (*Author:* See above.)

A discussion of accreditation; its history, development, and current status. Included is a section on historical ventures into the accreditation of graduate programs. Bibliography: 232 titles.

357. ———. The National Commission on Accrediting: Its Next Mission. *Educational Record* 38:152-56, April 1957. (*Author:* See above.)

Reviews the background, founding, and accomplishments of the National Commission on Accrediting. The next mission on the NCA, and its underlying purpose, is to give higher education "leadership for unity and cohesion and not permit higher education to be fragmentized and divided by the pressures of specialized groups or organizations."

358. ———. Where May Accrediting Lead Us? In *Proceedings of the Midwest Conference on Graduate Study and Research.* 13th Annual Meeting, 1957. p. 14-19. (*Author:* See above.)

Surveys history and present status of regional and professional accrediting; discusses the beneficial, then the harmful, influences of accrediting; concludes with a plea for interest and support in continuing the benefits and eschewing the evils.

359. ———. Year of Opportunity. *Journal of Teacher Education* 10:226-29, June 1959; Same, adapted, entitled "The Three Basic Problems of Acrediting." *School and Society* 87:308–10, June 20, 1959. (*Author:* See above.)

Identifies three basic problems in accrediting: (1) lack of knowledge and understanding of accrediting; (2) jurisdictional conflicts among institutions, regional associations, and professional agencies; (3) need for widespread consideration of the broad implications of accrediting and a cooperative attempt at the improvement of all accrediting. Describes program of the National Commission on Accrediting for attacking these problems.

360. WRISTON, HENRY M. The Futility of Accrediting. *Journal of Higher Education* 31:327-29, June 1960. (*Author:* President Emeritus of Brown University and Head of the American Assembly, Columbia University.)

Brief presentation of the case against accrediting. Explains why the Association of American Universities gave up accrediting: lack of money to create the machinery to do a responsible job. Argues that, even if it were possible to do a competent job, the judgments would remain superficial and incommensurable, and the process "would further impair the integrity of institutional management."

See also Nos. 22, 65, 66, 75, 121, 156, 488, 492, 530, 667, 787, 804, 859, 880.

8. The Graduate Dean and Administrative Services

361. ASSOCIATION OF GRADUATE SCHOOLS. COMMITTEE ON ADMINISTRATIVE PROBLEMS. The Position of the Graduate Dean in Member Institutions of the Association of American Universities. In *Journal of Proceedings and Addresses.* Ninth Annual Conference, 1957. p. 49–59.

Summarizes replies from member institutions to a questionnaire concerning "the graduate dean's authority and position in the general administrative set-up of his university." Analyzes replies to each of ten specific questions. General conclusion: "The position of the graduate dean in most institutions still provides an opportunity to exercise great influence on educational policy. With a few exceptions, however, it is not a position of extensive authority and responsibility in budgetary and personnel matters."

362. BACON, ROY M. *The Role of the Administrator of Academic Affairs in Selected Universities.* Doctoral dissertation (Ed.D.). Knoxville: University of Tennessee, 1960. 130 p.; Abstract in *Dissertation Abstracts* 21, No. 4, 802–03, October 1960.

"The problem of this study was to define the appropriate role for the Administrator of Academic Affairs of selected universities and to determine the extent to which Administrators of Academic Affairs performed this role."

363. BUNDY, MCGEORGE. Scholarship and Public Policy. In *Proceedings of the American Conference of Academic Deans, 1959.* Paul A. Cundiff, Secretary and editor. Indianapolis, Ind.: Butler University, 1959. p. 24-34. (*Author:* Dean, Faculty of Arts and Sciences, Harvard University.)

Dismisses as false issues the alleged oppositions between practical and theoretical knowledge, scholar and society, public and private institutions, science and liberal arts, quality and quantity, and teaching and research. Assesses the present standing and future requirements of American scholarship, and outlines the part which academic deans should play in its advancement, particularly in the area of relations between scholarship and the Federal Government.

364. Cleveland, Harland. The Dean's Dilemma: Leadership of Equals. *Public Administration Review* 20:22-27, winter 1960. (*Author:* Dean, Maxwell Graduate School, Syracuse University.)

An analysis of the position, power, and methods of the academic dean. "The dynamics of a faculty are centrifugal, not centripetal. . . . The function of the academic dean then may be described as the deferential manipulation of an essentially legislative process. The process involves a maximum of apparent referendum and a minimum of overt initiative on the dean's part."

365. Deferrari, Roy J., *ed. Functions of the Dean of Studies in Higher Education.* Washington: The Catholic University of America Press, 1957. 143 p. (*Author:* Secretary-General, The Catholic University of America.)

Proceedings of a workshop conducted at The Catholic University of America, June 15-26, 1956. Part I contains nine addresses concerning the academic dean, his office and qualifications, and his relationship to the curriculum, the faculty, the students, the registrar, and the president. Part II summarizes proceedings of three seminars on the functions of the dean in colleges for men and in women's colleges of less than 300 and of more than 300 students. The focus of the proceedings is the Catholic undergraduate college.

366. Godbold, Bryghte David. *Faculty Participation in Budgetary Administration in Large Privately Controlled Universities.* Doctoral dissertation (Ph.D.). New York: New York University, 1960. 186 p.; Abstract in *Dissertation Abstracts* 21, No. 5: 1108-09, November 1960.

A study of the extent of faculty involvement in budget formulation and revision in nine large Ph.D.-granting universities, based on personal visits and conferences with administrative officers and faculty members. Finds little faculty participation in budgetary processes, but finds a significant correlation between the extent of control of budgetary administration by the chief university educational administrator and the proportion of funds spent on educational activities.

367. Lloyd, R. Grann. The Administrators of Graduate Schools for Negroes. *Journal of Higher Education* 29:449-50, 470, November 1958. (*Author:* Professor of Economics, Tennessee Agricultural and Industrial State University.)

Report of a questionnaire survey of deans of the 23 graduate schools operated primarily for Negroes. Gives data about official titles, faculty rank, degrees held, salary range, number of years in office, previous experience, age range, and nonadministrative duties. Also reports student enrollments in 1954-55.

368. Mayhew, Lewis B. Shared Responsibility of the President and the Dean. *North Central Association Quarterly* 32:186-92, October 1957. (*Author:* Associate Professor, Board of Examiners, Michigan State University.)

Specifies the duties of the president and of the academic dean, then analyzes four categories of difficulties in effecting a satisfactory division of labor between these two offices: viz, (1) difficulties related to university organizational structure, (2) those stemming from the inherent nature of the two offices, (3) those deriving from ignorance of administration as a profession, and (4) those resulting from personal clashes of philosophy, background, or ambition. Suggests a few methods for overcoming some of these difficulties.

369. Morrill, James L., *and others.* The Role of the Graduate Dean. In Association of Graduate Schools, *Journal of Proceedings and Addresses.* Ninth Annual Conference, 1957. p. 70-84. (*Author:* President, University of Minnesota.)

President Morrill is joined by President Barnaby C. Keeney of Brown University, Dean Ralph A. Sawyer of the University of Michigan, and Dean Roy F. Nichols of the University of Pennsylvania in a panel discussion of the actual and ideal function of the graduate dean and his relationship to the president.

370. Mueller, Kate H. Married Student on the Campus. *College and University* 35:155-63, winter 1960. (*Author:* Professor of Education, Indiana University.)

Advocates the provision of greatly expanded and counseling services and financial help for married students.

371. NICHOLS, ROY F. The Ambiguous Position of the Graduate-School Dean. *Journal of Higher Education* 30:123–27, March 1959. (*Author:* Vice Provost and Dean of the Graduate School of Arts and Sciences, University of Pennsylvania.)

Points out the weaknesses in the normal position of the graduate-school dean and recommends three remedies: (1) let graduate faculty members give a larger proportion of their attention to graduate instruction, particularly thesis direction; (2) make a reasonable fund of money available to the dean for various projects which could advance graduate-school interests; (3) create a more important place for the dean in the academic hierarchy so that he has greater voice in university recruitment, appointment, promotion, salary, and budgetary decisions.

372. TEN HOOR, MARTIN. Personnel Problems in Academic Administration. *Liberal Education* 45:405–23, October 1959. (*Author:* Professor of Philosophy and Dean, College of Arts and Sciences, University of Alabama.)

A discussion of the academic dean's problems of relations with the faculty. Particularly concerned with promotions in rank and increases in salary, the enforcement of rules and maintenance of standards, faculty participation in administrative decisions, and communication between faculty and administration and among the faculty itself.

See also Nos. 19, 22, 43, 65, 80, 97, 102, 237, 491, 689, 832, 847.

9. Housing and Buildings

373. College and University Residence Facilities Constructed 1950 through 1958: An Analysis of the Amount and Quality of Single Student, Sorority-Fraternity and Married Student Residence Facilities. In *American School and University 1959–60*. 31st edition. New York: Butterheim Publishing Corporation, 1959. p. 165–94.

Reports and analyzes information received from 366 institutions concerning student residences constructed since 1950. Includes a list of married-student residences, giving the location of each and describing the type of building(s) and number and type of rooms in each unit.

374. DOI, JAMES I. Planning for Faculty Office Space. *Higher Education* 14:96–99, February 1958. (*Author:* Director of Institutional Research, University of Colorado.)

Points out the tendency to overload faculty office and research facilities in estimating building needs. Indicates the need for adequately spacious, private, and attractive office rooms, particularly in graduate institutions, and discusses factors which should be taken into account in estimating office need.

375. DURLEY, W. MARK. Housing Graduate Students. *College and University Business* 25:28–29, July 1958. (*Author: Director of Student Housing,* Claremont College.)

Describes new building, having 16 apartments and 14 dormitory rooms, for graduate students at Claremont College.

376. FRANK, LAWRENCE K. Housing for Married Students. *Journal of Home Economics* 49:347–50, May 1957. (*Author:* Consultant and lecturer in mental hygiene.)

Delineates the housing needs peculiar to married graduate students and describes the kind of construction, the special facilities, and the services which should be provided for them and their families. Based on a memorandum prepared for a planning group at Massachusetts Institute of Technology.

377. FULTS, DAN ANDERSON. *An Inquiry Into the Housing Status and Housing Needs of Married Students at Indiana University.* Doctoral dissertation (Ed.D). Bloomington: Indiana University, 1958. 163 p.; Abstract in *Dissertation Abstracts* 19, No. 8:2002, February 1959.

Purpose: (1) to define and analyze the housing wants of married students at Indiana University, (2) to determine whether or not the wants were realistic, and (3) to determine if the wants were being met by the University.

378. JONES, ROBERT M. Married Student Housing at Arkansas Combines Beauty with Comfort. *College and Uni-*

versity Business 28:25–29, March 1960. (*Author:* Assistant Dean of Students and Supervisor of Housing, University of Arkansas.)

Describes the University of Arkansas's "Carlson Terraces" project, which is now partially completed and will comprise 28 two-story buildings, each containing 20 two-bedroom apartments for married students.

379. MIDDLEBROOK, WILLIAM T. *How to Estimate the Building Needs of a College or University: A Demonstration of Methods Developed at the University of Minnesota.* Minneapolis: University of Minnesota Press, 1958. 169 p. (*Author:* Vice President, Business Administration, University of Minnesota.)

Describes an intricate method of estimating space and building needs at the University of Minnesota through 1970 for individual colleges and branches and for separate categories of functional use. Includes estimates for graduate and professional schools and for research. Appends an inventory of all University buildings, giving the age, value, size, function, and other information about each.

380. SHIEL, FRANCIS C. University of Michigan's Married Student Housing Project. *American School and University.* 30th edition, 1958. Vol. I, p. 331–36. (*Author:* Manager of Service Enterprises, University of Michigan.)

"Increasing numbers of married students in graduate and professional programs at the University of Michigan have made it necessary to provide adequate, yet inexpensive rental apartments for student families." Describes the University's Northwood Apartment development of 41 buildings, 6 service buildings, and 396 housing units, completed in 1957.

381. SMITH HERBERT L., JR., *ed. Building for Research. An Architectural Record* Book. New York: F. W. Dodge Corporation, 1958. 224 p. (*Author:* Associate Editor, *Architectural Record.*)

A compilation of articles from *Architectural Record* since 1950, reporting major research building developments. The first section is a broad discussion of general laboratory planning and design objectives. Following sections deal respectively with nuclear, industrial, and institutional laboratories. The latter section describes seven engineering or research laboratory buildings at the University of Minnesota, the University of California at Los Angeles, the Washington University (St. Louis) School of Medicine, the University of Michigan, Georgia Institute of Technology, and the University of Wisconsin.

382. SORMAN, JOHN L. *The Housing of Married Students.* Doctoral dissertation. New York: Columbia University, 1957.

Not examined. Abstract not in *Dissertation Abstracts.*

383. SWINBURNE, HERBERT H. Temple University's Master Expansion Plan. *American School and University.* 30th edition, 1958. Vol. I, p. 97-110. (*Authors:* Architect, designer of the Temple University Master Site Plan.)

Describes in detail Temple University's $50 million, 15-year plan for developing a campus in the heart of Philadelphia suitable for a projected total of 40,000 daytime and evening and graduate students.

384. U. S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE. *College and University Facilities Survey.* 2 vols. By W. Robert Bokelman and John B. Rork. Part 1: *Cost and Financing of College and University Buildings, 1951–55.* Circular No. 540; Part 2; *Planning for College and University Physical Plant Expansion, 1956--70.* Circular No. 603. Washington: U.S. Government Printing Office, 1959 and 1960. 53 and 112 p.

Reports data obtained from 72.5 percent of all institutions of higher education in the Nation concerning past and planned expenditures for physical facilities in six major functional categories: instructional, research, general, auxiliary, and residential buildings, and campus improvements. Expenditures for research facilities reported under 11 major fields of study. Expenditures for married student apartments reported separately. Data are analyzed by geographic regions and States, by public or private control, by type of institution, and by size of institution.

See also No. 103.

10. Scholarship and Research: Administrative and Organizational Matters

For discussions of the cost and support of research, *see* section II, 6, a through c. For discussions pertaining primarily to faculty research activities and responsibilities, see section V.

385. ARADER, HARRY F. The Advantages and Operation of a Multidisciplinary Research Project. *Journal of Engineering Education* 48:304–06, January 1958. (*Author*: Director, Project *Big Ben*, University of Pennsylvania.)

Describes operation of "Project Big Ben," conducted by the University of Pennsylvania's Institute for Cooperative Research, in which approximately 60 specialists representing a variety of skills and disciplines conduct research in teams under contract with the Research and Development Command of the Air Force. The research teams are composed of specialists in all disciplines related to the problem under investigation and undertake research tasks related to the over-all effort of the project. The characteristic product is a joint report on a subject of wide scope. The advantage of such research is that individual competences are enlarged by having immediate access to concepts, information, and techniques developed by specialists in other fields.

386. BACH, HARRY. *Bibliographical Essay on the History of Scholarly Libraries in the United States, 1800 to the Present.* University of Illinois Library School Occasional Papers No. 54. Urbana, Illinois: The School, 1959. 24 p. (*Author:* Head, Acquisition Department, San Jose State College, San Jose, Calif.)

"This paper proposes to make a discriminative inventory and assessment of the literature dealing with the history of [university] scholarly libraries. More specifically, this study will attempt to direct the student to important and apposite writings having to do with the history of scholarly libraries in the United States, to call attention to the deficiencies, gaps, and desiderata in the field, and possibly to account for such shortcomings." Bibliography: 134 items.

387. BARLOW, H. W. Logical Variations in the Research Policies of Educational Institutions. *Journal of Engineering Education* 47: 798–809, May 1957. (*Author:* Director, Washington State Institute of Technology, Pullman.)

A parallel exposition of research administration policies at the University of Wisconsin, New York University, and California Institute of Technology. Representatives of each institution reply in parallel to three questions: (1) What is the role of research in your institution? (2) What are the basic reasons for this role and how are they stated as a policy? (3) How is this research policy implemented with respect to 14 specific items? The items discussed under question 3 concern teaching and research loads, compensation policies, relationship between teaching and research staffs, fringe benefits, restrictions on outside consulting, kinds of sponsored research accepted, and the like.

388. Berkeley Basic Science Institute. *Science* 125: 486–87, March 15, 1957.

Describes the purpose, organization, and staff of the University of California's new Institute for Basic Science Research.

389. BLEGEN, THEODORE C. *The Harvests of Knowledge: A Report on Research Potentials and Problems in the State University of New York.* Albany, N.Y.: The Research Foundation of the State University of New York, 1957. 48 p. (*Author*: Dean of the Graduate School, University of Minnesota.)

"In this report I have chosen to deal first with what I found to be the major problem, namely, the need for [a central, integrated university on a single campus], since the implications of such a center reach out to all parts of the research situation in the State University of New York. As a matter of convenience in reporting my more detailed findings, however, I have brought together, in a second part, my analysis of certain research needs and problems that were impressed upon my mind both in the documents I have studied and in my visits to many of the colleges that comprise the University. Finally, I have offered some concluding comments which I believe may be of general interest."

390. BRONWELL, ARTHUR. Needed—A Forum for Research Philosophy. *Journal of Engineering Education* 50: 152–56, November 1959. (*Author*: President, Worcester Polytechnic Institute.)

"Is it not possible to achieve that priceless quality so characteristic of the newer scientific societies—an open and challenging mind exploring the distant goals which science has in store—but achieve this within the structure of the large, well-established scientific and engineering societies?" Suggests actions which can be taken by universities, professional societies, and other agencies.

391. ———, Conference Chairman. Report of the Conference on Research Goals Sponsored by the National Science Foundation in Cooperation with Fifteen Professional Societies. *Journal of Engineering Education* 50: 620–26, April 1960. (*Author:* See above.)

Reports deliberations and recommendations of a conference of college and university officials and representatives of 15 leading scientific and engineering societies at Worcester Polytechnic Institute on December 3–4, 1959. The specific question posed was: "How can young research scientists and engineers be brought more stimulatively, imaginatively, and creatively into contact with the frontiers of science and technology in such a way as to accelerate significant discovery, both in the advancement of science and in the translation of science into new technology?" Discusses eight forces tending to inhibit creativity in scientific research, and addresses six remedial recommendations to colleges and universities and seven to scientific and engineering societies.

392. Brown, J. Douglas; Williams, George. Teaching and Research in the University. *National Education Association Journal* 48: 12–14, May 1959. (*Authors:* (1) Dean of the Faculty, Princeton University; (2) Associate Professor of English, Rice Institute.)

A discussion of the relative importance of teaching and research for university faculty members. Brown argues the importance of research; Williams, the importance of teaching.

393. Columbia University. President's Committee on the Educational Future of the University. Subcommittee on the University Libraries. Mauric F. Tauber, chairman. *The Columbia University Libraries: A Report on Present and Future Needs.* New York: Columbia University Press, 1958. 320 p.

Describes current conditions, weaknesses, and problems in the library service of the University, presents future possibilities, and recommends improvements. Discusses administrative organization of the libraries, their resources, cataloging and classification, facilities and personnel, readers' services, interlibrary cooperation, and financial support. Not concerned with details of operation. Three major themes: (1) the necessity for a university library to grow continuously, with increasing rather than decreasing costs as it grows larger; (2) the importance of regional and national interlibrary cooperation; and (3) the need for a permanently organic relationship between the Libraries and those who plan instruction and research throughout the University.

394. Cornell University. *Research at Cornell.* Eleventh Annual Report of the Vice President for Research, 1958–1959. Ithaca, N. Y.: The University, 1959. 48 p.

An annual report of the Vice President for Research at Cornell University. This eleventh report gives special emphasis to research in the humanities.

395. ———. *Research at Cornell.* Tenth Annual Report of the Vice President for Research, 1957–58. Ithaca, N. Y.: The University, 1958: 56 p.

An annual report of the Vice President for Research at Cornell University. This tenth report emphasis research in the sciences.

396. Gershinowitz, Harold. Industrial Research Programs and Academic Research. *American Scientist* 46: 24–32, March 1958. (*Author:* President, Shell Development Co.)

Discusses industrial activity in fundamental scientific research and compares it with university research. Finds little to distinguish between the two in specific projects, although industrial research in the large is never entirely undirected. Believes that the function of university research should be "really undirected research," and that "the sponsorship of academic research by industry should be in the form of unrestricted research grants."

397. Glennan, T. Keith. Basic Research on the College Campus. In *Proceedings of the 11th National Conference on the Administration of Research, September 1957.* University Park, Pa.: Pennsylvania State University Press, 1958. p. 118–24. (*Author:* President, Case Institute of Technology.)

"I want to explore with you the question of whether or not the competition that we find ourselves in for the funds necessary for the support of research on a college campus is resulting in the adoption of practices which may have a detrimental effect on the quality of our educational activities and on the output of truly scholarly research." Argues that there is a lamentable drift away from uncommitted research activity, and that institutions must make an effort to find the funds necessary to make faculty research "once again a normal responsibility of the university, not an auxiliary enterprise."

398. Gomberg, Henry J., *and* Emmons, Ardath H. Manpower Requirements for a University Research Reactor. *Journal of Engineering Education* 48: 360–63, February 1958. (*Authors:* (1) Professor of Nuclear and Electrical Engineering; (2) Assistant Dean, College of Engineering, University of Michigan.)

Describe operational philosophy and staff needed for direction, supervision, and operation of a one-megawatt reactor for teaching and research at the University of Michigan.

399. Greater Princeton. *Fortune* 56: 279–80, 282, November 1957.

Discusses the causes and effects of the mushrooming of industrial laboratories and concentration of industrial scientists in the neighborhood of Princeton University.

400. Halsey, A. H. The Changing Functions of Universities in Advanced Industrial Societies. *Harvard Educational Review* 30: 118–27, spring 1960. (*Author*: Associate Professor of Sociology, University of Chicago.)

Discusses the relationship between higher education and the social and economic structure in the U.S., Russia, and Britain. Argues that in modern times institutions of higher education, both as research organizations and as training agencies, "play a central role in the economy and the system of stratification as agencies for selection, training and occupational placement of individuals."

401. Johnson, Laurence B. The Ethos of Research. *Clearing House* 34: 10–12, September 1959. (*Author*: Assistant Executive Secretary, New Jersey Education Association.)

Discusses the problems which arise in attempting to simplify and popularize the complex conclusions of research (here particularly educational research).

402. Joughin, Louis. Scrutiny of Professors. *American Association of University Professors Bulletin* 44: 199–210, March 1958. (*Author*: Assistant Director, American Civil Liberties Union.)

An account of an attempt by the ACLU to convey to the Department of Defense the objections of faculty members to Section 6–i (old 7–e) of the *Industrial Security Manual*, under which institutions having contracts involving classified information may be required to submit information about employees working under the contract, and of the response made by the Government. There is a concluding evaluation of the understanding arrived at.

403. King, Alexander. Research and Political Power. *Science* 126: 237–38, Aug. 9, 1957. (*Author*: Staff member, European Productivity Agency, Paris.)

Points out close relationships between trends in national research, economic, and political power, and the relative advantage the U.S.S.R. and satellite countries enjoy in access to research publications as a consequence of their strong, centralized informational services and their deliberate policy of full exploitation of world research.

404. Luszki, Margaret B. *Interdisciplinary Team Research Methods and Problems.* No. 3 of the National Training Laboratories Research Training Series. New York: New York University Press, 1958. xxvii 355 p. (*Author:* Principal Investigator, National Training Laboratories, Division of Adult Education Service, National Education Association.)

An analytical report of five conferences, each of about 25 persons experienced in interdisciplinary team research in the area of mental health-psychology-sociology. "Through informal, frank discussions of behind the scenes aspects of research operations, it was hoped that certain major and recurring difficulties might be identified and clarified, with a view to avoiding or minimizing the problems that frequently beset interdisciplinary research projects."

405. National Science Foundation. *Basic Research—A National Resource.* NSF 57–35. Washington: U. S. Government Printing Office, 1957. 64 p.

"This report is designed to convey in nontechnical language the meaning of basic research in science and how important it is to the Nation. . . . It presents the case for basic research as an activity so indispensable to the Nation that the Federal Government cannot avoid responsibility for its encouragement and support. . . . Suggestions are made in the report for positive steps toward appropriate ways for carrying out the responsibility, not only by the National Science Foundation and other Federal agencies, but quite generally by both public and private agencies."

406. Odegard, Peter H. New Dimensions of Learning in the Social Sciences. With summary of panel discussion following. In University of Pittsburgh, *New Dimensions of Learning in a Free Society*. Pittsburgh, Pa.: University of Pittsburgh Press, 1958. p. 26–47. (*Author*: Head, Department of Political Science, University of California, Berkeley.)

Attempts to define social science as a discipline. Distinguishes it from natural science in that it is "concerned with purposive or goal directed behavior and consequently with *ends* as well as *means*." Finds a unifying element among all the social sciences in that all are concerned with the same theme—human behavior. Finds this unity reflected in the use of the new term, "behavioral science." "For the most part, the various Social Sciences have represented not different subject areas, nor even differences of method, but primarily different ways of looking at man in society. By now focusing upon human behavior, whether it be in political behavior, judicial behavior, economic behavior, religious behavior, or any of a hundred other varieties of behavior, improved methods of research may reveal uniformities and justify more significant and fundamental generalizations than has been possible where this common focus was lacking."

407. Pelz, Donald C. Social Factors in the Motivation of Engineers and Scientists. *School Science and Mathematics* 58: 417–29, June 1958. (*Author*: Assistant Program Director, Institute for Social Research, University of Michigan.)

Reports results of research into the administration of scientific research organizations. "First, in a research organization we obtained a rough measure of the caliber of scientific performance of different individuals. . . . Second, by questioning the individuals we attempted to find out the nature of their working environment—the kinds of relationships each individual had with his colleagues or his supervisor. Then we analyzed the data to see what social factors actually distinguish the higher performing scientists from those performing less well."

408. Phenix, Philip H. Barriers to Academic Communication. *Teachers College Record* 59: 76–88, November 1957. (*Author*: Professor of Education, Teachers College, Columbia University, and Fellow of the National Council on Religion in Higher Education.)

"The breakdown in communication in the modern university is not simply the result of increasing specialization in the several areas of knowledge. It is more fundamentally a result of personal estrangement. . . . Hence the problem of barriers to communication is in essence a religious one. . . ." Discusses 12 obstacles to communication among academic disciplines, e.g., cultural diversity, emotional barriers, ambiguity of language, different criteria of meaning.

409. Pierce, J. R. Freedom in Research. *Science* 130: 540–42, Sept. 4, 1959. (*Author*: Director of Research-Communications Principles, Bell Telephone Laboratories, Murray Hill, N.J.)

Discusses three important limitations of freedom in research (responsibility, commitment to expensive apparatus, and specialization), and two limitations which it is foolish for a man to be victimized by (snobbishness about the status of a field of inquiry and the tyranny of a boss).

410. Polanyi, Michael. The Organization of Science and the Claim to Academic Freedom. *Graduate Journal* 3: 108–17, spring 1960. (*Author*: Retired Professor of Social Studies, Manchester University, England.)

Demonstrates the necessity for freedom in scientific research, exercised under the supervision only of the consensus of scientific opinion, if pure science is to flourish. Argues that such freedom is possible only in an institution relatively secluded from other (i.e., inventive or technological or commercial) interests. Discusses the middle-ground fields of engineering and technological sciences and their place in the academic and outside communities. (Reprinted from *Science and Freedom*, A Bulletin of the Committee on Science and Freedom, No. 13:10–16, 135–43, November 1959.)

411. Price, Don K. Organization of Science Here and Abroad. *Science* 129: 759-65, March 20, 1959. (*Author:* Dean, Graduate School of Public Administration, Harvard University.)

Depicts the organization of science in the United States ". . . not as a guild under the patronage of a traditional sovereignty, but as a most important element in a highly diversified and free system." Argues that this distinction has made it politic that Federal assistance to universities be based on technical judgments or statistical formulae.

412. Scates, Douglas E. Changing Sources of Information About Thesis Research. *Journal of Teacher Education* 8:210-13, June 1957. (*Author:* Research Editor, the *Journal.*)

Calls attention to the basic sources of information about doctor's theses as these have appeared over the past 45 years, thus providing some background for a discussion of the new *Index to American Doctoral Dissertations*, which lists all dissertations reported by universities each year, and of *Dissertation Abstracts*, which currently provides abstracts of about half (i.e., 4,000 to 5,000) of the doctoral dissertations done annually.

413. Schild, Alfred. The University and the Physical Sciences. *Graduate Journal* 2:308–14, fall 1959. (*Author:* Professor of Mathematics, University of Texas.)

Attributes the great success of university research in the physical sciences to the freedom accorded university scientists to follow their ideas wherever they may lead. Points out the importance of freedom in research and describes three present dangers to free research at universities (including Government security measures and the pressures exerted through contract grants to work along predetermined channels).

414. Talbott, F. L. Special Opportunities in Doctoral Study and Research. *National Catholic Education Association Bulletin* 56:184–87, August 1959. (*Author:* Professor of Physics, The Catholic University of America.)

Discusses opportunities to do doctoral dissertations at other institutions or at Government or private research centers where more adequate facilities are available, or to get aid in doing dissertation research at one's own institution; and points out the advantages and dangers involved in this practice.

415. U.S. Department of Health, Education and Welfare. *Library Statistics of Larger Colleges and Universities, 1956–57.* By John C. Rather. Office of Education Circular No. 578. Washington: The Department, 1959. 13 p.

Tabular presentation of library statistics for for each of 135 colleges and universities having resident enrollments of 5,000 students or more. Data given for number of volumes, undergraduate enrollment, faculty, circulation, hours open per week, sundry operating expenditures, and library personnel. Average 1956–57 figures are compared with average figures for 1951–52 and 1946–47.

416. University of Arizona. *Research in Science and Technology at the University of Arizona: An Interpretive Report.* Tucson: The University, 1959. 88 p.

A field-by-field survey of scientific and engineering research activities in progress at the University in mid-1959. The report is "not a technical analysis but an interpretive survey of the purpose, scope, and significance of the activities it describes. The report has been prepared in nontechnical language in the hope that it may aid better public understanding of scientific and engineering research at the University of Arizona."

417. University of California. *The Research Function of the University.* Proceedings of the 15th All-University Faculty Conference, April 12–14, 1960. Berkeley: The University, 1960. 51 p.

Reports, recommendations, and summaries of discussion of four study committees dealing with the following topics: (1) The Research Role of the University, (2) Financial Support for University Research, (3) Barriers to Research in the University, (4) Research in the Graduate Program. Concerned primarily with the University of California system. Concludes with 34 resolutions, most making specific suggestions for the advancement of research and graduate study.

418. University of Florida. *A Spot Survey of Research at the University of Florida.* Gainesville: The University, 1958. 48 p.

A nontechnical report of research activities in various scientific and professional fields.

419. von Hippel, Arthur R. Universities in Transition. *Technology Re-*

view 61:293–95, 314, April 1957. (*Author:* Professor of Electrophysics and Director of the Laboratory for Insulation Research, Massachusetts Institute of Technology.)

Proposes a new organizational structure for universities, in which departments would be parallelled by "research centers." "In a university, natural research units form spontaneously around scientists and engineers who dedicate their lives to the development of some challenging area of knowledge. If such programs and interest partly overlap and together open much broader vistas of understanding by which individual contributions assume a deeper meaning, the prerequisites exist for forming a 'Research Center' by voluntary federation." Such a Center would have its own laboratory, library, information center and interdepartmental faculty. Describes a prototype "Center for Modern Materials Research."

420. WELTER, RUSH. *Problems of Scholarly Publication in the Humanities and Social Sciences.* Prepared for the Committee on Scholarly Publication of the American Council of Learned Societies. New York: The Council, 1959. 81 p. (*Author:* Professor of the History of American Civilization, Bennington College, Vt.)

"There are scholars who feel that publication is the main problem of scholarship today. From them one gets the vision of mountainous stacks of manuscripts, unpublished for lack of money to get them in print. Publishers, on the other hand, can be found who will state categorically that no good scholarly manuscript fails of publication today, that they are looking for manuscripts, that scholars do not know how to write, and so on. What are the facts? This report is the result of a year's effort to find them." Studies the experience of scholars, university presses, scholarly journals, and other parties involved in the problems, in an attempt to be precise about the difficulties and what can be done to overcome them.

421. WILKINSON, JOHN ADAMS. *The Dynamics of Sponsored Research.* Doctoral dissertation. Chicago: University of Chicago, 1957.

Not examined. Abstract not in *Dissertation Abstracts.*

422. WILSON, LOUIS ROUND, *and* TAUBER, MAURICE F. *The University Library: The Organization, Administration, and Functions of Academic Libraries.* New York: Columbia University Press, 1956. 2d edition. 641 p. (*Authors:* (1) Dean Emeritus, graduate Library School, University of Chicago; (2) Professor, School of Library Service, Columbia University.)

Standard work, covering all aspects of the field. Extensive chapter bibliographies. "The purpose of the present volume . . . is to review the changes which have taken place in the university library in response to the demands made upon it by university growth; to consider systematically the principles and methods of university and library administration; and to formulate generalizations concerning the organization, administration, and functions of the university library to the end that it may serve its clientele more adequately and efficiently than it has in the past."

423. WOLFLE, DAEL. Fiscal Control of Research. *Science* 128:1311, Nov. 28, 1958. (*Author:* Executive Officer, American Association for the Advancement of Science.)

Editorial: "Good business management is essential in universities, but it will be strange indeed if university research management follows the stultifying road of bureaucratic review and review and review when that road is so foreign to university traditions and when there are effective and much more congenial roads to follow."

424. ———, *ed. Symposium on Basic Research.* Publication No. 56 of the American Association for the Advancement of Science. Washington: The Association, 1959. 308 p. (*Author:* See above.)

A compilation of 15 papers presented at a symposium sponsored by the National Academy of Sciences, the AAAS, and the Alfred P. Sloan Foundation on May 14–16, 1959, with a summary of papers and panel discussions by Wolfle. The purpose of the symposium was "to let the nation know of the special needs of basic research and its relationship to our future national strength and to recommend methods by which the nation might make more effective use of its potential resources for basic research." Some contributors and the titles of their papers are Alan T. Waterman (Director, National Science Foundation), "Basic Research in the United States"; Conrad A. Elvehjem (President, University of Wisconsin), "Basic Research and the State University"; Lee A. DuBridge (President, California Institute of Technology), "Basic Research and the Private University"; Paul E. Klopsteg (President, AAAS), "Support of Basic Research from Government"; Robert E. Wilson (Former Chairman of the Board, Standard Oil Co., Indiana), "Support of Basic Research by Industry"; and Robert S. Morison (Director for Medical and Natural Sciences, Rockefeller Foundation), "Support of Basic Research from Private Philanthropy."

See also Nos. 48, 93, 96, 98, 102, 175, 214, 218, 229, 304, 305, 307, 308, 310, 381, 737, 852, 878.

11. International Exchange Activities

For discussions of the foreign student in American universities, *see* section IV, 5.

425. Adams, Richard N., *and* Cumberland, Charles C. *United States University Cooperation in Latin America.* East Lansing: Michigan State University, Institute of Research on Overseas Programs, 1960. xxxii, 264 p. (*Authors:* (1) Professor of Sociology and Anthropology; (2) Associate Professor of History; both of Michigan State University.)

An analysis of policies and practices in 13 selected assistance and exchange projects undertaken by U.S. universities in cooperation with Latin American universities or governmental agencies. Based on extensive interviews in the United States and in the field. Five chapters: (1) how projects are formed; (2) organization of projects (contracts, finances, recruitment, relationships between projects and participating institutions); (3) project activities (training and research); (4) analysis of project operation, innovation, and impact; (5) reflections and impressions. Case histories of the 13 projects are appended.

426. Adams, Walter, *and* Garraty, John A. *Is the World Our Campus?* East Lansing: Michigan State University Press, 1960. 180 p. (*Authors:* (1) Professor, Institute of Research on Overseas Programs, Michigan State University; (2) Associate Professor of History, Columbia University.)

An evaluative examination of university-administered Point IV programs in Turkey, France, and Italy, based on interviews with university representatives, government officials, professors, administrators, and other participants.

427. American Council on Education. Commission on Education and International Affairs. International Educational Activities of American Universities and Colleges. *Educational Record* 38:382–408, October 1957.

Report of a questionnaire survey of the heads of member institutions of the Council, seeking their views on policies in the conduct of international educational programs (exchange-of-persons, technical assistance, and other such programs) and the extent of participation of American institutions in these programs. Analyzes the findings under four headings: I. The Broad Purpose of International Educational Programs; II. The Roles of the Government and of Higher Education in the Conduct of International Programs; III. Opinions on Possible Lack of Coordination among Government and Private Agencies; IV. Present Expenditures and Investments and Potential Expansion. Appendix B, "Statement of President of Harvard University, and Reply from President of the American Council on Education," deals with institutional objectives and the respective roles of Government and private institutions.

428. Anderson, Gilbert. Inter-Country Exchange Grants. *Institute of International Education News Bulletin* 35:18–20, April 1960. (*Author:* Chief of the Lecturers and Research Scholars Branch, Bureau of International Cultural Relations, U.S. Department of State.)

Describes the activities and methods of operation of the inter-country grant program, which enables American experts and lecturers abroad on other grants "to pay short visits to neighboring countries to lecture, participate in seminars, address professional and civic groups and confer with their colleagues."

429. Association of Graduate Schools. Committee on International Student Exchange. Report. In *Journal of Proceedings and Addresses.* 10th Annual Conference, 1958. p. 24–30.

Reports favorably on the work of the Institute of International Education in screening specified Asian applicants at the request of AGS institutions. Reviews activities of the Council on Evaluation of Foreign Student Credentials, publications of the IIE, the function and accomplishments of the Commission on Education and International Affairs, and progress by the Committee on English Testing Abroad toward establishing a testing program. Calls attention to the service of the U.S. Information Agency in distributing graduate school catalogs abroad.

430. ———. ———. Report, with discussion. In *Journal of Proceedings and Addresses*. 11th Annual Conference, 1959. p. 50–61.

Reports on activities of interest to the AGS carried on by the Council on Evaluation of Foreign Student Credentials, the Institute of International Education, and the American Council on Education's Commission on Education and International Affairs. Also reports on exchange programs with Spain and Russia.

431. BODENMAN, PAUL S. *American Cooperation with Higher Education Abroad: A Survey of Current Programs*. U.S. Office of Education Bulletin 1957, No. 8. Washington: U.S. Government Printing Office, 1957. 211 p. (*Author:* Staff member, Division of International Education, U.S. Office of Education.)

A series of brief surveys of specific international activities and programs in the realm of higher education. Part I describes nongovernmental programs, including several kinds of institutional activities and programs of foundations, religious organizations, professional and service organizations, business and industry, and international associations. Part II describes U.S. Government programs, including international educational exchange and technical cooperation activities, information and various other programs, and U.S. participation in international agencies. Part III is a detailed listing of U.S. and foreign institutions participating in programs discussed in the survey, with brief descriptions of specific projects in which each is involved. Information drawn from most recent annual reports, documents, and correspondence.

432. CARNEGIE FOUNDATION FOR THE ADVANCEMENT OF TEACHING. The College and University in International Affairs. In *55th Annual Report, 1959–60*. New York: The Foundation, 1960. p. 11–23; Separate reprint. 1960. 15 p.

A summary of an all-day discussion by the trustees of the Foundation at their 54th annual meeting. Includes consideration of graduate professional programs for overseas work, admission and treatment of foreign students, international scholarly collaboration, responsibilities of universities for education and service in international affairs, and the relation of the universities to the Federal Government in overseas contract programs.

433. COHEN, HERMAN J. The Fulbright Program in Latin America. *Institute of International Education News Bulletin* 35:8–17, April 1960. (*Author:* Staff member, Bureau of International Cultural Relations, U.S. State Department.)

A country-by-country review of Fulbright exchange operations in Latin America since their beginning in 1955, with an appeal for their expansion.

434. COMMITTEE ON THE UNIVERSITY AND WORLD AFFAIRS. J. L. Morrill, chairman. *The University and World Affairs*. New York: The Ford Foundation, 1961. 84 p.

A study of the role of the American university in international affairs, with recommendations for enlarging the scope and improving the organization of university services in this area of responsibility during the 1960's. Examines the present and potential contributions of universities themselves as centers of learning, research, and service, and the supporting roles required of the Federal Government and other public and private agencies. The nine Committee members were Harold Boeschenstein, Harvie Branscomb, Arthur S. Flemming, J. W. Fulbright, John W. Gardner, Franklin D. Murphy, Philip D. Reed, Dean Rusk, and J. L. Morrill. The study was supported by the Ford Foundation at the request of the Department of State.

435. CONFERENCE BOARD OF ASSOCIATED RESEARCH COUNCILS. COMMITTEE ON INTERNATIONAL EXCHANGE OF PERSONS. *Educational Exchanges: Aspects of the American Experience*. Washington: National Academy of Sciences-National Research Council, 1956. 74 p.

A survey of activities and problems relating to exchanges of lecturers and research scholars, and a summary of discussions at a conference held in Princeton, N. J., in December 1954 to discuss policies and problems of senior exchange programs. Four chapters: (1) scope and types of present exchange programs; (2) problems of administration, selection, and planning of senior exchanges under the Fulbright Program; (3) a report of discussions at the Princeton

Conference; (4) future needs and opportunities. Bibliography, 25 items.

436. ———. ———. *U.S. Government Awards under the Fulbright and Smith-Mundt Acts, Program Announcements (University Lecturing, Advanced Research), 1961–1962: Europe, the Near East, the Far East, Africa.* Washington: The Committee, 2101 Constitution Avenue, 1960. 104 p.

Annual announcement of lectureships and post-doctoral research grants, listed by countries with an index to fields. About 300 lectureships and 100 research awards are included in this and the complementary announcement of grants for Australia, New Zealand, South Asia, and Latin America (*see* No. 437).

437. ———. ———. *U.S. Government Grants under the Fulbright and Smith-Mundt Acts, Program Announcements (University Lecturing, Advanced Research), 1961–1962: Australia, New Zealand, South Asia, Latin America.* Washington: The Committee, 2101 Constitution Avenue, 1960. 64 p.

See No. 436.

438. THE DEVELOPMENT OF INTER-AMERICAN EXCHANGE AND THE IIE. *Institute of International Education News Bulletin* 34:10–15, October 1958.

Summarizes history of educational exchange programs between the United States and Latin America.

439. DOI, JAMES I. Education in a World Society. *Review of Educational Research* 28:42–53, February 1958. (*Author:* Director of Institutional Research, University of Colorado.)

Reviews the literature in this area for the 4-year period since 1954. Includes a section on "The International Exchange of Students and Cross-Cultural Education." "The research that appeared in this area from 1954 to 1957 falls into two broad categories: (a) that dealing with the identification of the migrating student population and with the aims, policies, and programs of student exchange; and (b) that directed toward the analysis of the impact of the sojourn on the migrating student, the interaction between the student and the citizens of his host country, and the role of the foreign educated student in his own community." Bibliography: 96 items.

440. DOWNAR, RICHARD W. Channels of Cultural Communication. *Institute of International Education News Bulletin* 32:4–8, February 1957. (*Author:* Executive Director, American Commission for Cultural Exchange with Italy.)

Outlines procedures of operation of the Fulbright program binational commissions and problems encountered by them in choosing and placing foreign and American graduate students.

441. FLACK, MICHAEL J. *Sources of Information on International Educational Activities.* Washington: American Council on Education, 1958. 113 p. (*Author:* Associate Professor, Graduate School of Public and International Affairs, University of Pittsburgh.)

An inventory of "organizations, institutions, or projects which, as a substantive part of their service, compile and/or disseminate information on international educational activities of interest to American universities or colleges." Lists 52 such organizations, describing the purposes, information resources, services, and publications of each. An introductory essay discusses kinds and sources of information about international educational activities, for U.S. students, for foreign students, for U.S. and foreign faculty, and for U.S. institutions.

442. GARRATY, JOHN A., *and* ADAMS, WALTER. *From Main Street to the Left Bank: Students and Scholars Abroad.* East Lansing: Michigan State University Press, 1959. 216 p. (*Authors:* (1) Associate Professor of History, Columbia University; (2) Professor, Institute of Research on Overseas Programs, Michigan State University.)

An evaluative report on the activities of American students and professors in Europe, based principally on extended conversations with about 400 persons, American and European, closely connected with these activities. Chiefly concerned with organized undergraduate programs, but deals with general problems of study abroad and makes necessary distinctions between graduate and undergraduate levels. Includes a chapter on "The American Professor in Europe."

443. GILSON, RICHARD P. South Pacific Area: Its Potentials for Fulbright Grantees. *Institute of International Education News Bulletin* 33:

11–17, March 1958. (*Author:* Faculty member, Research School of Pacific Studies, Australian National University.)

Describes fields, problems, and opportunities for graduate study and research in the South Pacific area.

444. GULLAHORN, JOHN T., *and* GULLAHORN, JEANNE E. *American* Fulbrighters Back Home. *Institute of International Education News Bulletin* 34:13–19, April 1959. (*Authors:* (1) Assistant Professor of Sociology and Anthropology; (2) Graduate Council Fellow in Psychology, both of Michigan State University.)

Report results of a survey of 895 former Fulbright and Smith-Mundt students, teachers, lecturers, and scholars, the purpose of which was to measure the impact of the grantees' overseas experiences on their professional activities and on their roles as agents of international communication.

445. HOLLAND, KENNETH. Opportunities to Study or Teach Abroad. *Educational Forum* 22:13–20, November 1957. (*Author:* Director, International Institute of Education.)

An introductory statement of the values and problems of study or teaching abroad. Followed by a brief survey of the types of available student and teacher exchange opportunities.

446. HUMPHREY, RICHARD A., *ed. Blueprint and Experience.* Addresses and Summary of Proceedings of the Conference on University Contracts Abroad, 1957. Washington: American Council on Education, 1958. 47 p. (*Author:* Director, Office of Institutional Projects Abroad, A.C.E.)

Proceedings of a third annual conference devoted to discussion of the activities of American universities in carrying on educational, developmental, and research activities, contracted for primarily by the International Cooperation Administration, in conjunction with foreign universities and other agencies. Principal fields of activity are education, agriculture, public administration, engineering, and public health and medicine. In addition to an address by Vice President Nixon, the conference included two working sessions, one of which discussed the rationale of Government support of the contract program and the second of which considered means of improving the educational impact of the program in the host countries. These discussions are summarized.

447. ———, *ed. Education Without Boundaries.* Addresses and Summary of Proceedings of the Conference on University Contracts Abroad, 1958. Washington: American Council on Education, 1959. 68 p. (*Author:* See above.)

Proceedings of a fourth annual conference devoted to university foreign contract activities (*see* No. 446). Includes six addresses and a combined summary of two working session discussions, the general interests being to review the effectiveness of these activities abroad and to outline goals for future development of university programs in terms of long-range involvement in international projects.

448. ———, *ed. Toward a Foreign Policy for Higher Education.* Addresses and Summary of Proceedings of the Conference on University Contracts Abroad, 1959. Washington: American Council on Education, 1960. 114 p. (*Author:* See above.)

Proceedings of a fifth annual conference devoted to university foreign contract activities (*see* No. 446). Includes full texts of 14 principal addresses and papers, and rapporteurs' summaries of three working sessions. The Conference devoted two general sessions to "Objectives of U.S. Foreign Educational Policy" and "The Internationalization of Higher Education." Three working sessions were devoted to discussions of the impact of American university programs abroad, their impact on participating U.S. institutions, and operational problems in university contracting.

449. INSTITUTE OF INTERNATIONAL EDUCATION. *Handbook on International Study, 1958: A Guide for Foreign Students on Study in the United States and for U.S. Students on Study Abroad.* Second edition. New York: The Institute, 1958. 450 p.

A compilation of information of interest to the prospective foreign student in the United States and to the American student planning study abroad. Organized in two sections, each of five chapters—the first section concerned with study in the United States for foreign students, and the second with study abroad for Americans. The first chapter in each section describes education in the United States and abroad and provides information about all accredited institutions and their fields of study. The second chapter lists study awards and special programs tenable in the United States and in other countries. The third chapter lists summer opportunities for foreign and for U.S. students. The fourth chapter lists and briefly describes organizations in the United States which provide services to foreign students and to American students going abroad. The fifth chapter in each section describes U.S. and foreign government regulations affecting foreign students and American students going abroad. Two bibliographies, one of 30 titles on research and evaluation concerning exchange of persons, the second (p. 414–24) a general bibliography coordinate with the material of the several chapters.

450. ———. *Open Doors, 1960: Report on International Exchange.* New York: The Institute, 1960. 59 p.

The report of the Institute's annual survey of foreign students, faculty members, and physicians in the United States, and of U.S. students and faculty members abroad. Statistics are for 1959–60 (except for U.S. students abroad, who are counted for 1958–59), and provided the following information: (1) for foreign students: home country, sex, year studies in United States began, financial support, academic status, and fields of major interest; (2) for U.S. and foreign faculty members: country of assignment or home country, and fields of major interests; (3) for foreign physicians: home country, status, and U.S. hospitals reporting foreign physicians; (4) U.S. institutions reporting foreign students, foreign faculty members, and U.S. faculty members abroad; and (5) for U.S. students: foreign institutions reporting them and number reported by each.

451. ———. *U.S. Government Grants for Graduate Study Abroad 1961–1962, Under the Fulbright Act, the Inter-American Cultural Convention and the Smith-Mundt Act.* New York: The Institute, 1960. 7 p.

A pamphlet of information about awards, under the U.S. Government Educational and Cultural Exchange Programs, for graduate study and predoctoral research.

452. ———. COMMITTEE ON EDUCATIONAL INTERCHANGE POLICY. *College and University Programs of Academic Exchange: Suggestions for the Study of Exchanges of Students, Faculty and Short-Term Visitors.* New York: The Committee, 1960. 36 p.

"This pamphlet will assist a college or university in analyzing its international educational exchange activities. Separate sections deal with major issues involved in student, faculty and short-term exchanges." Bibliography: 70 titles.

453. JOUGHIN, LOUIS. The Selection of Fulbright Scholars. *American Association of University Professors Bulletin* 46:8–17, March 1960. (*Author:* Staff Associate, American Association of University Professors.)

Report to the Association of an investigation of agencies, procedures, and criteria involved in selecting scholars for foreign teaching and research appointments under the Fulbright Act. Studies changes in the operation of the program made as a result of the Loewenberg case.

454. LAVES, WALTER H. C. The Role of Institutions of Higher Learning in Developing Asian-United States Relations. *Educational Record* 39:287–92, July 1958. (*Author:* Chairman, Department of Government, Indiana University; formerly Deputy Director General of UNESCO.)

Believes "that the universities should now seek much more actively to help shape the destiny of mankind as this is affected by the relations between Asia and the Western countries." Outlines several possible research projects, several needs in the way of academic programs and facilities, and several means of enlarging interuniversity relations.

455. MICHIGAN STATE UNIVERSITY. INSTITUTE OF RESEARCH ON OVERSEAS PROGRAMS. *The International Programs of American Universities.* East Lansing, Mich.: The Institute, 1958. 323 p.

An inventory of student, faculty, and material exchange or overseas programs, in operation during 1957–58, for which individual American universities accept institutional responsibility. Finds that 184 universities were conducting 382 programs. Part I analyzes data on the programs as a whole; Part II lists and describes the individual programs. Data reported include regions or countries involved, cooperating organizations in the foreign countries, the kinds of operations carried on under each program, the subject matter fields involved, kinds of activities or level of studies, number of persons participating, administrative and financial matters, and the purposes and accomplishments of the programs.

456. NUESSE, C. J. Fulbright Growth: Branches and Roots. *Institute of International Education News Bulletin* 33:6–10, March 1958. (*Author:* Chairman of the Board of Foreign Scholarships.)

Describes development of the Fulbright program, particularly its growing emphasis upon meeting the educational needs of other countries.

457. PUTMAN, IVAN J. Eyes on the Middle East. *College and University* 32:324–35, spring 1957. (*Author:* Adviser to Foreign Students, University of Florida.)

Observations upon the reputation of American higher education and the problems of prospective and returned students in the Middle East, based upon 9 weeks of travel in the area and interviews with officials and students. Finds that low standards in a few American institutions have harmed the repute of all, that the great need is for some kind of evaluative guide to foreign student programs in American institutions for the sake both of the students themselves and our own good repute, and that returned students have difficulty adapting themselves to the working situations they find at home. On the other hand, finds much value in exchanges and a great desire to come to the United States for study.

458. RIEPE, DALE. Fulbright in Retrospect. *Institute of International Education News Bulletin* 34:55–58, April 1959. (*Author:* Head of the Philosophy Department, University of North Dakota.)

Reviews experiences as a Fulbright student in India in 1951–52 and as a Fulbright lecturer in Japan in 1957–58.

459. ROSENHAUPT, HANS. The New Children's Crusade, or Going to Jerusalem on a Grant. *Columbia University Forum* 3, No. 2:15–21, spring 1960. (*Author:* National Director, Woodrow Wilson National Fellowship Foundation.)

Animadversions upon international exchange of students and scholars. Believes, however, that "spending federal money on student exchange will . . . produce better results than any other form of foreign aid."

460. SHIMBORI, MICHIYA. International Exchange of Scholars. *Educational Record* 41:312–18, October 1960. (*Author:* Associate Professor of Educational Sociology, Hiroshima University.)

Describes the interest of the Japanese scholar in studying abroad, and the difficulties in the way of his doing so. Recommends five specific changes and innovations in the administration of the Fulbright and Smith-Mundt programs.

461. SMITH, BRUCE L. *Indonesian-American Cooperation in Higher Education.* East Lansing: Michigan State University. Institute of Research on Overseas Programs, 1960. xxii 133 p. (*Author:* Professor of Political Science, Michigan State University.)

An analysis of relations between six American universities and their Indonesian affiliates. Chapters on (1) backgrounds of the Indonesian educational system; (2) university education in post-revolutionary Indonesia; (3) Indonesian-American interuniversity relations; and (4) recommendations and an appendix which gives a descriptive list of American university affiliations in Indonesia, 1958–59. Bibliography: 57 titles.

462. STATISTICS ON INTERNATIONAL EDUCATIONAL EXCHANGE. *Institute of International Education News Bulletin* 36:30–32, October 1960.

Annual summary census of foreign student, physician, and faculty populations in the United States, and of U.S. students and faculty members abroad. Statistics are for 1959–60, except that figures for American students abroad refer to 1958–59. Analyzes foreign populations by area of origin, sex, level, general field of study, State and leading institutions of residence, etc. Briefly reports most popular areas, countries, institutions, and general fields of study of Americans abroad. For previous summaries see *IIE News Bulletin* 33:21–22, September 1957; 34:21–23, November 1958; 35:24–26, September 1959.

463. STOREY, ROBERT G. The Fulbright Program Faces the Future. *Institute of International Education News Bulletin* 35:2–7, April 1960. (*Author:* Chairman of the Board of Foreign Scholarships.)

Describes the organization and operation of the Fulbright program and discusses the outlook for the program's future.

464. UNITED NATIONS EDUCATIONAL, SCIENTIFIC AND CULTURAL ORGANIZA-

TION. *Formal Programmes of International Cooperation Between University Institutions: Report of an International Committee of Experts.* Educational Studies and Documents No. 37. New York: Columbia University Press, 1960. 39 p.

A preliminary report of a program to study institutional questions relating to higher education, prepared by the International Association of Universities for UNESCO. The publication provides a brief outline of university cooperation, some typical forms of cooperation, some arrangements for cooperation, and observations on programs of cooperation. It concludes with suggestions and recommendations.

465. ———. *International Relations and Exchanges in the Fields of Education, Science and Culture.* Report to the United Nations Economic and Social Council. Paris: UNESCO, 1960. 491 p. (Processed.)

General review of the development and coordination of the economic, social and human rights programs and activities of the United Nations and the specialized agencies.

466. ———. *Study Abroad: International Handbook of Fellowships, Scholarships, and Educational Exchange, 1959–1960.* Eleventh edition. Paris, France: UNESCO, 1959. 755 p.

Provides information about fellowships, scholarships, and travel grants offered by international organizations and (listed country by country) by governments, foundations, universities, and other institutions, for study in 1959–60. "The fellowship programmes of over 1,200 awarding agencies in 111 States and Territories are described. Over 90,000 individual opportunities are reported in the handbook, of which about 3,200 are offered by the United Nations and its Specialized Agencies, and some 10,000 by other international organizations. The scholarships and fellowships mentioned are for study in a wide selection of fields, and are tenable in almost any part of the world. The average duration of an award is usually one academic year, but many of the opportunities listed are for periods varying from about two weeks to several years." Also reports results of the 1958 UNESCO survey of foreign student enrollments in institutions of higher education and their distribution by country of origin and field of study, and includes a list of organizations in each country offering advisory and other services to foreign students and to nationals wishing to study abroad.

467. U.S. DEPARTMENT OF STATE. INTERNATIONAL EDUCATIONAL EXCHANGE SERVICE. *International Educational Exchange Program, 1948–1958.* Publication No. 6710, International Information and Cultural Series No. 60. Washington: U.S. Government Printing Office, 1958. 66 p.

Resume and review of the first 10 years of the United States Information and Educational Exchange Act of 1958 (the Smith-Mundt Act), administered by the International Educational Exchange Program of the Department of State.

468. U.S. HOUSE OF REPRESENTATIVES. 85TH CONGRESS. COMMITTEE ON GOVERNMENT OPERATIONS. *Government Programs in International Education: A Survey and Handbook.* Prepared by Charles A. Quattlebaum. Washington: The Committee, 1959. 251 p.; Summary by Quattlebaum. *Educational Record* 40:249–55, July 1959. (*Author:* Principal Specialist in Education, Legislative Reference Service, Library of Congress.)

The major sections of the survey are (1) a consideration of the relationship of the principal U.S. Government international educational programs to higher education and to international understanding; (2) a synoptic history of international educational exchange; (3) an agency-by-agency survey of current Government programs; (4) a review of the educational programs of international governmental agencies to which the U.S. contributes; (5) a digest of relevant bills and legislation in the 85th Congress; (6) a brief history and description of the international educational programs of the U.S.S.R. and some other foreign countries.

469. UNIVERSITY OF MINNESOTA. CENTER FOR INTERNATIONAL RELATIONS AND AREA STUDIES. *International Student Exchanges: Proceedings of a Symposium Held at the University of Minnesota, April 11, 1958.* Minneapolis: The Center, 1958. 24 p. (Processed.)

Contains three addresses, followed by questions and discussion: (1) Government Programs for International Student Exchange, by Henry B. Cox (Chief, Program Services Staff, International Educational Exchange Service, U.S. Department of State); (2) The Work of Private Agencies in International Student Exchange, a discussion of the aims and responsibilities of colleges and universities and other sponsors of foreign student programs, by Donald J. Shank (Executive Vice President, Institute of International Education); (3) Responsibility of the University for Foreign Students, by Forrest G. Moore (Foreign Student Adviser, University of Minnesota).

470. WINGER, HOWARD W., *ed. Iron Curtains and Scholarship: Exchange of Knowledge in a Divided World.* Chicago: University of Chicago Graduate Library School, 1958. 132 p. (*Author:* Assistant Professor, Graduate Library School, University of Chicago.)

Papers presented before the 23d annual conference of the Graduate Library School of the University of Chicago, July 7-9, 1958. Ten papers, relating chiefly to Soviet scholarship and the problems of communication between scholars of the United States and of Soviet Russia.

See also Nos. 94, 96, 790, 797, 798, 806, 813.

12. Miscellaneous

a. Extension Centers

471. CAMPBELL, GEORGE W. University Extension Centers in Higher Education. *Teachers College Record* 59: 156–62, December 1957. (*Author:* Director, University of Alabama Center, Mobile.)

Describes the present status and characteristics of university general extension centers at the levels of lower-division, upper-division, and graduate study. Discusses the potential role of the centers in disseminating research findings and in assisting local community development.

472. WEAVER, JOHN C. Off-Campus Graduate Education. In *Proceedings of the Midwest Conference on Graduate Study and Research.* 15th Annual Meeting, 1959. p. 1–12; Same, abridged, entitled "Facts and Philosophy of Graduate Extension Education." *Educational Record* 40:242–48, July 1959. (*Author:* Dean of the Graduate School, University of Nebraska.)

Discusses the demand, particularly upon public universities, for off-campus centers of graduate instruction where qualified employees of government and industry can pursue M.A. degrees on a part-time basis. Describes the University of California at Los Angeles program at China Lake. Reviews the arguments pro and con undertaking such programs. Concludes that "the heart of the problem obviously is the complex concept of residency," and recommends closer scrutiny of the presumed values of residency.

473. WINTERS, CLIFFORD L., JR. Off-Campus Graduate Centers: A Problem of University Adult Education. *Adult Education* 10:94–100, winter 1960. (*Author:* Assistant Dean, Adult Education Division, Syracuse University.)

Argues the need for, and adequacy of, off-campus graduate centers established under corporation sponsorship. Describes three centers operated by Syracuse University at Rome, Poughkeepsie, and Endicott, New York, offering master's programs in engineering science. Discusses operating principles which have proved viable.

See also Nos. 76, 99.

b. Summer Session

474. Graduate Work in Summer Session. In *Proceedings of the Midwest Conference on Graduate Study and Research.* 13th Annual Meeting, 1957. p. 30–34.

Highlights of panel reports by Dean O. O. Winther (University of Indiana), Dean John D. Cooke (University of Southern California), Dean Thomas Osgood (Michigan State University), and Dean Robert Koenker (Ball State Teachers College).

475. LOEHWING, WALTER F. A Graduate Dean Looks at the Summer Session. In *Proceedings of the Midwest Conference on Graduate Study and Research.* 14th Annual Meeting, 1958. p. 10–18. (*Author:* Dean of the Graduate School, State University of Iowa.)

Comments upon the attributes, problems, and potentialities of summer sessions. Feels that the great value of summer sessions is worth their high cost, that graduate deans should be more aggressive in demanding adequate budgets and in placing summer study and teaching on a par with the regular year, and that "comprehensive reviews and surveys are in order with a view to service on a broader scale."

476. Stecklein, John E.; Corcoran, Mary; Ziebarth, E. W. *The Summer Session: Its Role in the University of Minnesota Program.* Minneapolis: University of Minnesota Printing Department, 1958. 188 p. (*Authors:* (1) Director, Bureau of Institutional Research; (2) Research Associate, Bureau of Institutional Research; (3) Dean of Summer Session; all of the University of Minnesota.)

A comprehensive analysis and evaluation of the summer session program at the University of Minnesota during the summer of 1956. Topics discussed include a brief history of the summer session (1 chapter); the kind of students attending the summer session (5 chapters); the summer session faculty (3 chapters); the kinds of courses provided in the summer session (4 chapters); and a summary of summer session studies and their implications for the future (1 chapter). (*See* No. 477 for a report of selected findings.)

477. ———; ———; and ———. The University Summer Session: An Appendage or Part of the Whole? *College and University* 35:307–16, spring 1960. (*Authors: See* above.)

A report of some of the general findings of the authors' comprehensive study of the University of Minnesota 1956 summer program (*see* No. 476). Describes students, faculty, and course offerings, and discusses certain administrative issues.

See also Nos. 102, 567.

c. Other

478. American Association of Collegiate Registrars and Admissions Officers. *Catalogues Are for Students Too.* Athens: Ohio University, Office of the Registrar, 1958. 36 p.

Practical advice on preparation of catalogues. Six chapters: (1) The Purposes of the College Catalogue, (2) An Editorial Policy for College and University Catalogues, (3) Terminology and Definitions, (4) Minimum Content and Logical Arrangement, (5) The Graphic Arts, (6) Preparation of Catalogue Copy.

479. Blackwell, Thomas E. Graduate Committee and Doctoral Dissertation. *College and University Business* 25:34, October 1958. (*Author:* Educational Management Consultant, Washington University, St. Louis.)

Discussion of the law regarding the rights and responsibilities of universities in granting candidacy and degrees

480. Hahn, Lewis. The Pursuit of Graduate Degrees by Members of the University Faculty. In *Proceedings of the 16th Annual Meeting of the Midwest Conference on Graduate Study and Research, 1960.* p. 10–11. (*Author:* Dean, Washington University, St. Louis.)

Condensation of a talk describing common university policies governing faculty members who are (a) working on degrees at other universities, and (b) working toward degrees at the university in which they are teaching.

481. Livingston, William S. Law of Copyright and the Doctoral Dissertation. *Association of American Colleges Bulletin* 44:636–41, December 1958. (*Author:* Associate Professor of Government, University of Texas.)

Microfilm publication brings the doctoral candidate and his dissertation into immediate contact with copyright questions. "The purpose of the present comments is to alert the graduate student and his advisers to some of the problems of copyright law and also to the possible advantages of protecting the dissertation by obtaining copyright protection for it." (*See also* author's addendum on copyright registration, in *Liberal Education* 45:588–89, December 1959.)

482. Minot, Stephen. What a Seminar Is Not. *American Association of University Professors Bulletin* 44:733–35, December 1958. (*Author:* Assistant Professor of English, University of Connecticut, Hartford Branch.)

Distinguishes the seminar from several other types of instruction mistakenly assumed to be seminars, and discusses a positive, ideal definition: "Briefly, a seminar is no more than an organized, guided discussion aimed at intellectual discovery."

483. Murphy, Richard. On Being Doctored. *Quarterly Journal of Speech* 44:453–56, December 1958. (*Author:* Professor of Speech, University of Illinois.)

A study of current usage in addressing persons having a Ph.D. degree.

484. Nabrit, S. M. Desegregation and the Future of Graduate and Professional Education in Negro Institutions. *Journal of Negro Education* 27: 414–18, summer 1958. (*Author:* President, Texas Southern University.)

"The fate of the graduate school whose primary orientation is toward the Negro will depend upon the capacity of institutions to develop unique programs and place the hallmark of high quality upon their graduates. Such institutions will in time become outstanding institutions without a racial appellation. Institutions which are mediocre have less likelihood of survival as graduate schools than as professional ones."

485. Reid, Robert H. *American Degree Mills: A Study of Their Operation and of Existing and Potential Ways to Control Them.* Washington: American Council on Education, 1959. 99 p.

Presents the dimensions of the problems of the granting of bogus degrees, particularly doctoral degrees to foreign students, and discusses actual and desirable means of stopping the practice.

486. Sawyer, Ralph A. Doctoral Dissertations and the Law of Copyright. In Association of Graduate Schools, *Journal of Proceedings and Addresses.* Seventh Annual Conference, 1955. p 114–18. (*Author:* Dean of the Graduate School, University of Michigan.)

Discusses the legal doctrine that "fair use" of quotations from copyrighted material is permissible without obtaining permission from the copyright owners. Concludes that it is impossible to give an absolute definition of "fair use." Believes that the term may be interpreted liberally.

487. Seymour, Harold. Call Me Doctor! *Educational Record* 39:230–34, July 1958. (*Author:* Instructor in History, Finch College, New York.)

Argues that the Ph.D. has lost its prestige as a result of the failure of its recipients to insist upon the title "Doctor" and the confusion created in the public mind by the awarding of unearned doctoral degrees. Includes an historical sketch of the M.D. degree.

III Graduate Programs

1. Arts and Sciences

a. General Studies

488. ASSOCIATION OF GRADUATE SCHOOLS. COMMITTEE ON POLICIES IN GRADUATE EDUCATION. Report, with discussion. In *Journal of Proceedings and Addresses*. Eighth Annual Conference, 1956. p. 8–31.

Summarizes responses of member institutions to question concerning (1) Ph.D. program time requirements and (2) supply, demand, and enrollment of graduate students. The first section deals with factors determining the elapsed time for completion of the Ph.D. and four possibilities of effecting more rapid completion of the program. The second discusses the size and interrelationship of applications and enrollments, the amount of support available and utilized and relative departmental capacities for expansion, and the plans of AGS institutions for the future expansion of graduate education.

489. BARZUN, JACQUES. The Degrees, the Pace, the Product. In *The Carnegie Conference on Higher Education: Addresses and Discussions, 1957*. New York: Carnegie Corporation, 1958. p. 130–40. (*Author:* Dean of the Graduate Faculties, Columbia University.)

A discussion of the nature of the Ph.D. and M.A. degrees and of faults in the processes and products of graduate education, with recommended remedies for the faults. "I think we have an enormous amount of fresh energy and native intelligence in the young men and women who go into graduate schools, but we neither claim their allegiance nor impart to them a discipline, and in leaving them raw talents we neither do justice to their hopes and ambitions nor fulfill our social duty." Followed by verbatim record of floor discussion.

490. ———. *Graduate Study at Columbia: Excerpts from the Report of the Dean of the Graduate Faculties for 1957*. New York: Columbia University Press, 1957. 25 p. (*Author:* See above.)

Discusses the sluggishness and uncertainty of graduate programs and measures being taken at Columbia to correct these defects. "Regularizing procedures and observing them conscientiously so as to make sure that the student's progress is a fact would not only encourage him and his sponsor, but would also bring a welcome change from the present sense of stasis and futility."

491. ———. *Graduate Study at Columbia: Extracts from the 1956 Report of the Dean of the Graduate Faculties*. New York: Columbia University Press, 1956. 20 p. (*Author:* See above.)

A general commentary upon the present status and needs of graduate education, interspersed with reports of specific developments at Columbia during the past year. Discusses shortcomings in graduate programs, problems of standards and quality of students, the importance of providing the colleges with scholars and hence the importance of the graduate faculty's teaching role, services to students, and the virtue of limiting enrollments.

492. ———. *Graduate Study at Columbia: The Report of the Dean of the Graduate Faculties for 1958*. New York: Columbia University Press, 1958. 26 p. (*Author:* See above.)

Discusses the three "obstacles to legitimate acceleration" of the graduate program: (1) the student's need to work for money during or immediately after residence; (2) the student's inadequate preparation; (3) the difficulty of regulating student work in a graduate department. Describes steps being taken or in need of taking at Columbia to remedy these obstacles.

493. ———; ELDER, J. P.; *and* THOMSON, DAVID L. The Great Split—Scholarship and Teaching. Panel discussion. In Association of Graduate Schools, *Journal of Proceedings and*

Addresses. Eighth Annual Conference, 1956. p. 106–24. (*Authors:* (1) See above; (2) Dean of the Graduate School, Harvard University; (3) same, McGill University.)

An expression of views about the meaning of scholarship and its relationship to college teaching, and the effectiveness of the Ph.D. program in preparing scholar-teachers, taking Strothmann's *Graduate School Today and Tomorrow* (No. 518) as a point of departure. Followed by discussion at large.

494. **Beach, Leonard B.** Freedom and Discipline in Graduate Programs. *Journal of Higher Education* 30:120–23, March 1959. (*Author:* Dean of the Graduate School, Vanderbilt University.)

Outlines a reformed system of graduate education which would give students maximum freedom to pursue their personal interests and would thereby make disciplinary requirements a constructive rather than a deadening influence.

495. **Brickman, William W.** Scholarship vs. Practical Research. *School and Society* 88:107, Mar. 12, 1960. (*Author:* Editor, *School and Society.*)

Criticizes an announced curricular revision in the graduate program of the Woodrow Wilson School of Princeton University which would meet the needs of men planning careers in public affairs rather than in academic work. Questions whether a first-class graduate school can afford "to make a dichotomy between 'a scholarly researcher' and a non-scholarly one."

496. **Buechler, John.** Training in Bibliography and Research. *Journal of Higher Education* 29:213–16, April 1958. (*Author:* Librarian, English and Speech Graduate Library, Ohio State University.)

Urges the need of graduate students for direct training in bibliography and research techniques. Describes the use of special graduate libraries and librarians at Ohio State University and gives a brief survey of the bibliography and research course for students in English and American literature.

497. **Bye, Carl R.** What Will Be the Dimensions of the Ph.D. and the Professional Doctorates? In Association for Higher Education, *Current Issues in Higher Education, 1960.* Edited by G. Kerry Smith. Washington: National Education Association. p. 183–86. (*Author:* Dean of the Graduate School, Syracuse University.)

Comments upon five major problems: the need for fellowship support and early recruitment and preparation; reducing the span of time required to complete the doctorate; providing adequate preparation for college teaching; improving the doctoral program as a whole; and providing a more effective organizational framework for graduate education than now prevails.

498. **Chambers, M. M.** Ideas Versus Organization: Practical Matters. *Graduate Journal* 3:130–38, spring 1960. (*Author:* Faculty member, Center for the Study of Higher Education, University of Michigan.)

Random comments upon graduate programs and their requirements, including criticism of commonly held beliefs about the subject, method, and originality of doctoral research. Also touches on interdisciplinary doctoral programs, the length of time for the doctorate, the devaluation of the master's degree, language requirements, and the distinctive role of the graduate school.

499. **Cowley, W. H.; Bigelow, Karl W.;** *and* **Stoddard, George D.** Graduate Education. In *The Carnegie Conference on Higher Education: Addresses and Discussions, 1957.* New York: Carnegie Corporation, 1958. p. 113–29. (*Authors:* (1) Professor of Higher Education, Stanford University; (2) Professor of Higher Education, Teachers College, Columbia University; (3) Dean of the School of Education, New York University.)

A panel discussion, with verbatim record of floor discussion following. Cowley traces the history of the structuring of the graduate school of arts and sciences and discusses the paradox that the present structuring, "though it privileges research in comparison with teaching, interferes with effective research performance." Bigelow discusses graduate work in chemistry and physics at Columbia, and reports results of an investigation indicating that small liberal arts colleges are losing ground as sources of science doctoral graduates. Stoddard summarizes several issues for further discussion.

500. **Distler, Theodore A.** Commission on Professional and Graduate Study. Report. *Liberal Education* 45:

97–102, March 1959. (*Author:* Executive Director, Association of American Colleges.)

Reviews developments giving evidence of "an increasing measure of understanding and cooperation between undergraduate liberal arts colleges on the one hand and professional and graduate schools on the other." Mentions Ness's *Guide to Graduate Study*, Potter's *Fellowships in the Arts and Sciences*, the Johns Hopkins Medical School experiment, and the conference on graduate study sponsored by the American Council on Education (*see* No. 577). Describes five projects for the future, including three studies of graduate programs.

501. Eckelberry, R. H. Graduate Degrees as Professional Degrees. *Journal of Higher Education* 30:172–73, March 1959. (*Author:* Editor, the *Journal.*)

Argues that candidates for the M.A. or Ph.D. degree are invariably preparing for college teaching or some other professional calling rather than seeking degrees "simply for their own personal satisfaction," and hence that M.A. and Ph.D. programs should be flexible enough to permit each student to fulfill the needs of his professional objective and, if necessary, to cross departmental boundaries freely.

502. Horner, John E. A Dangerous Trend in Graduate Education. *Journal of Higher Education* 30:167–68, March 1959. (*Author:* President, Hanover College, Indiana.)

Reports that a study of 75 broadly representative graduate-school catalogs reveals that 62 percent of courses open to graduate students in all fields are "mixed courses," or courses for both graduate and undergraduate students. Fears that "the mixed course will become so prevalent that the label 'graduate education' will be a misnomer."

503. Kirk, Grayson. It Takes a Person Too Long to Get an Advanced Degree. *Nation's Schools* 64:50, July 1959. (*Author:* President, Columbia University.)

Proposes four changes in graduate programs: (1) Setting up high admission standards so that students are well prepared for graduate work when they begin; (2) concentrating on essentials and not expecting students to master the whole body of professional knowledge; (3) continuous study throughout the year; (4) reforming specific degree requirements, specifically the dissertation, to bring them into conformity with the vital interest of the graduate student.

504. Klinkhamer, Sister Marie Carolyn. Outline to Order. *Catholic Educational Review* 57:361–76, September 1959. (*Author:* Associate Professor of History, The Catholic University of America.)

"Dissertations in particular, but also term papers, could profit handsomely if the use of the outline *to order* were understood and practiced." Describes proper outlining procedure, defining outlining as "the important principle by which the actual order within a given problem may be discovered and displayed."

505. Kretzmann, O. P. Commission on Preparation for Professional and Graduate Study. Report. *Association of American Colleges Bulletin* 43:170–75, March 1957. (*Author:* President, Valparaiso University.)

Devoted largely to a preliminary statement by Frederic W. Ness concerning the purpose and scope of his *Guide to Graduate Study* (No. 540).

506. ———. Commission on Professional and Graduate Study. Report. *Liberal Education* 46:112–16, March 1960. (*Author:* See above.)

Reports developments presaging closer cooperation and integration between liberal arts colleges and graduate schools in all disciplines, but particularly schools of medicine and law. "At the suggestion of the Board of Directors of the Association, your commission has broadened its interests to include all preparation for post-A.B. work in undergraduate colleges."

507. ———. Commission on Professional and Graduate Study. Report. *Association of American Colleges Bulletin* 44:155–58, March 1958. (*Author:* See above.)

Reports the publication of Ness's *Guide to Graduate Study* and Potter's *Fellowships in the Arts and Sciences*. Describes the new program at Johns Hopkins Medical School, which incorporates work in humanities and social sciences. Calls the recruitment of able college teachers in all disciplines "our greatest need and our most significant problem."

508. Lowry, William C., *and* Redfield, David D. Selection of Academic Year Institute Participants at the University of Virginia. *Mathematics Teacher* 53:270–76, April 1960. (*Au-

thors: (1) Assistant Professor of Education; (2) Research Associate, School of Education; both of the University of Virginia.)

Describe the National Science Foundation academic year institute program for high school teachers of science and mathematics, and policies of selection and programs developed in the institutes at the University of Virginia. Then analyze the personal, professional, and academic backgrounds of participants.

509. NATIONAL CATHOLIC EDUCATIONAL ASSOCIATION. COMMISSION ON GRADUATE STUDY. *Graduate Programs and Degrees Offered by Catholic Institutions of Higher Learning in the United States.* St. Louis, Mo.: Saint Louis University Graduate School (Dean Robert J. Henle, 321 North Grand Boulevard, St. Louis 3), 1958. 16 p.

An index by fields of graduate degrees offered by 42 Catholic colleges and universities, including academic, professional, and special programs.

510. NEUDLING, CHESTER L., *and* BLESSING, JAMES H. *Graduate General Humanities Programs.* U.S. Office of Education Bulletin 1960, No. 12. Washington: U.S. Government Printing Office, 1960. 126 p. (*Authors:* (1) Specialist for the Humanities; (2) Research Assistant, both of the Division of Higher Education, U.S. Office of Education.)

An exhaustive survey of graduate interdepartmental programs which take the whole range of humanistic study for their domain. Thirteen programs—6 doctoral and 7 master's programs—are described in considerable detail in parallel descriptive chapters, each dealing with one of the institutional programs as a unit. Information about most of the programs was gathered by means of personal visits to the institutions and discussion with the program chairmen.

511. NOYES, W. ALBERT. Some thoughts on Graduate Education, 1959. *Graduate Journal* 2:239–53, fall 1959. (*Author:* Professor of Chemistry, University of Rochester.)

Rambling discussion of various defects in doctoral programs and students and of possible remedies. Includes tables giving the baccalaureate and doctoral origins of members of the National Academy of Sciences, by general category of institution.

512. PAINTER, THEOPHILUS S. The Selection and Recruitment of Graduate Students. *Graduate Journal* 1:41–50, spring 1958. (*Author:* Professor of Zoology and President Emeritus, University of Texas.)

Argues that the recruitment of graduate students depends upon effective, inspirational teaching at every level, and that graduate schools should adapt their programs to the various needs of their several kinds of students. Doctoral programs should be appropriate to college teachers who will have little chance or desire to do research as well as to the research scholar; master's programs designed to meet the subject matter needs of elementary and secondary school teachers should be developed in addition to the program for the potential scholar. Advocates an "honors route" and a "practitioner route" to the same degree.

513. PARKER, WILLIAM R. Afterthoughts on a Profession: Graduate Training in the Humanities Today. *College English* 19:191–99, February 1958. (*Author:* Former Executive Secretary, Modern Language Association.)

Rising enrollments have had a weakening and divisive effect upon the humanities—weakening in quality of scholarship, divisive in their impact on the organization of scholarship.

514. PRICE, DEREK J. The Scientific Humanities: An Urgent Problem. *Graduate Journal* 2:298–306, Fall 1959. (*Author:* Visiting Professor of the History of Science, Yale University.)

"Just as financiers do not write about economics and politicians usually make history rather than write it, so scientists are not ordinarily especially competent or concerned to examine science-in-the-large. A few such people, however—scientists and historians mainly, but also some philosophers and sociologists—turned to this field. My grievous complaint against them is that they take it as something too small, too esoteric and specialized. . . . What I seek is something larger, namely the establishment of the Scientific Humanities as a school within these universities." Gives examples of research and professional needs to bridge the gap between science and the humanities. Outlines a possible curriculum.

515. ROUCEK, JOSEPH S., *ed. The Challenge of Science Education.* New

York: Philosophical Library, Inc., 15 East 40th St., 1959. 491 p. (*Author:* Faculty member, University of Bridgeport, Conn.)

Thirty-one articles by some 35 authors discuss the subject of science education from various points of view and at different levels of education. The section on "College and University Education" contains a chapter on each of the following areas: Engineering, industrial education, mathematics, biology, medicine, physics, chemistry, zoology, conservation, and social science.

516. **SMITH, WARREN S.** The Artist in the Community of Scholars. *American Association of University Professors Bulletin* 45:237–41, June 1959. (*Author:* Associate Professor of Theater Arts, Pennsylvania State University.)

Argues the validity of the work of art in lieu of the graduate thesis: "The picture of the scholarship on the graduate school level as pushing frontiers of learning steadfastly forward on all fronts, and recording clearly all that happens, while the poor artist (who may quite possibly be a genius, you know) struggles inarticulately with mystical and emotional forces toward some elusive end that no one can evaluate—I say that this is a picture that simply will not wash."

517. **SPIVEY, HERMAN E.** The Role of the Graduate School in the Promotion of Scholarship. *Graduate Journal* 1:144–54, fall 1958. (*Author:* Dean of the Graduate School, University of Kentucky.)

Takes scholarship to be the original, primary, and peculiar function of the university, and finds it wanting in master's and even doctoral programs. Expounds 6 handicaps impeding scholarship and 15 suggestions for restoring it. Advocates higher admission standards for graduate work, a return to research and writing as the core of the doctoral program, rehabilitation of the M.A., and a requirement that high school teachers have majored in the subjects they teach rather than in Education.

518. **STROTHMANN, F. W.** On behalf of the Committee of Fifteen. *The Graduate School Today and Tomorrow.* New York: Fund for the Advancement of Education, 1955. 42 p. (*Author:* Executive Head, Department of Germanic and Romance Languages, Stanford University.)

A report of the thinking of a distinguished group of college and university teachers and administrators, based on discussions, exchanges of memoranda, and a poll of members of six learned societies in the humanities and social sciences concerning their experience with graduate work. Views "the impending crisis in higher education" as a quantitative problem and a qualitative problem. Discusses methods of attacking each, with principal attention to the problem of quality. Recommends broader curriculums, teaching internships, and redefinition of dissertation requirements as means of meeting the needs of future college teachers. Appendix includes descriptions of several programs for the preparation of college teachers.

519. **VIENS, CLAUDE P.,** *and* **WADSWORTH, PHILIP.** Foreign Language Entrance and Degree Requirements for the M.A., M.S., and Ph.D. Degrees. *Publications of the Modern Language Association* 72:22–32, September 1957. (*Authors:* (1) Associate Professor of French and Assistant Dean of the Graduate College; (2) Professor of French; both of The University of Illinois.)

A survey of foreign language requirements for advanced degrees in all graduate schools of arts and science which awarded one or more Ph.D.'s or 30 or more master's degrees in 1953–54. Degree requirements given for each institution as a whole, not for specific departments.

See also Nos. 43, 54, 75, 76, 117, 147, 188, 189, 275, 417, 473, 633, 635, 783, 818, 859.

b. Doctoral Programs

520. **AMERICAN COUNCIL ON EDUCATION. COMMITTEE ON GRADUATE INSTRUCTION.** Raymond M. Hughes, chairman. *Report of the Committee.* Washington: The Council, 1934. 43 p.; Same. *Educational Record* 15:192–234, April 1934.

Reports results of a poll of well-known scholars as to which institutions offering doctoral work in each of 35 fields were adequately staffed and equipped for doing so, and which of these were most distinguished. The juries varied in size from 21 in chemical engineering to 85 in mathematics. Inclusion in the lists was determined by majority vote. The report also briefly discusses the place and function of the master's degree, training for college teaching, the relationship of scientific instruction in the graduate school to scientific instruction on the graduate level in a professional school, and the relationship between institutions of research and graduate schools.

521. ASSOCIATION OF GRADUATE SCHOOLS. COMMITTEE ON POLICIES IN GRADUATE EDUCATION. Reports, with discussions. In *Journal of Proceedings and Addresses.* Seventh Annual Conference, 1955. p. 11–47.

Six reports: (1) The Ph.D. Program—1955 Style, with discussion centering around problems of part-time study and residence requirements; (2) Ph.D. Research and Dissertation, recommending that a year and a half be devoted to dissertation research and writing, with discussion devoted primarily to the question of publishability; (3) The Minor for the Ph.D., recommending a minor outside the student's major field, but strongly opposed in the discussion; (4) The Master's Degree, calling for organized programs of clearly graduate-level work for all master's degrees and opposing mere "fifth-year's work" arrangements; (5) Preparation of College Teachers in the Graduate School, approving efforts to enrich the conventional system of departmental apprenticeships, but not at the expense of subject matter requirements; (6) The Professionalizing of the Ph.D. Degree, which discusses the threat to traditional Ph.D. standards and purposes posed by the twin pressures of increasingly professional objectives among students in traditional programs and the entrance of professional schools into the doctoral area, and which suggests the need to introduce a new academic degree in order to clarify the distinction between Ph.D. and professional programs. Discussion of this last report brings out several suggestions for preserving the traditional meaning of the Ph.D. program while meeting the demands (including the demand for college teachers) which are threatening it with vitiation.

522. ———. ———. Report, with discussion. In *Journal of Proceedings and Addresses.* Ninth Annual Conference, 1957. p. 33–48.

Report entitled "Doctors and Masters—Good and Bad!" Discusses the uncertainties and poor results of present Ph.D. programs and proposes a specific plan for a 3-year doctorate. Argues that the M.A. degree should be considered "as worthy in its way as the Ph.D. in its—each reflecting different amounts of the same thing and not performances different in quality. . . ." Discussion centers upon the difficulties which prevent achievement of 3-year doctorates.

523. BENT, HENRY E. Professionalization of the Ph. D. Degree. *Journal of Higher Education* 30:140–45, March 1959. (*Author:* Dean of the Graduate School, University of Missouri.)

Attempts to distinguish the Ph.D. program as it has generally been conceived from advanced training for teaching and the learned professions. "An examination of the facts that have been presented suggests that we might clarify our thinking on the professionalization of the Doctor's degree by recognizing that the Ph.D. program is training of the scholar and scientist, and in this restricted sense is training for a profession. This does not imply that it trains for any profession which a scholar or scientist may enter. It is preparation for a career involving to a large extent the organization and performing of original research and the study of the research of others."

524. BOEWE, CHARLES E., *and* NICHOLS, ROY F., *eds. Both Human and Humane: The Humanities and Social Sciences in Graduate Education.* Philadelphia: University of Pennsylvania Press, 1960. 224 p. (*Authors:* (1) Assistant Professor of English; (2) Dean of the Graduate School, both of the University of Pennsylvania.)

Contains 11 papers read at a symposium concerned with graduate education in the area of the humanities and social sciences. The papers deal primarily with substantive matters in scholarship and curriculum, particularly the interrelationships between disciplines. Specific discussion of formal aspects of doctoral study may be found in the essays by Howard M. Jones, Henri Peyre, and Donald Young.

525. BRICKMAN, WILLIAM W. Speed-Up of the Ph.D. Degree. *School and Society* 87:51–52, Jan. 31, 1959. (*Author:* Editor, *School and Society.*)

"Certainly it is good to accelerate the acquisition of the doctorate, all other things being equal. But it is to be feared that the accent on the speed-up process, coupled with the transformation of the dissertation into a 'trial-run in scholarship,' is bound to lead to a lowering of scholarly standards when they should be raised." Suggests several alternative ways to speed up doctoral programs.

526. BRYANT, DONALD C. Ph.D., '61? *Quarterly Journal of Speech* 43:426, December 1957. (*Author:* Professor of Speech, Washington University, Missouri.)

An editorial seconding the 1957 report of the Committee on Policies in Graduate Education of the Association of Graduate Schools (*see* No. 522) and urging higher admissions standards and a normal 3-year doctorate in the field of speech.

527. Collier, Joseph M. Proposals for the Ph.D. *CEA Critic* 20:1, 6–7, November 1958. (*Author:* Instructor in English, El Camino College, California.)

"Being a junior college instructor filled with self-interest, I would like to suggest the possibility of altering current doctoral programs or making additions to them so as to bring the Ph.D. work more in line with the type of teaching in a junior college (or lower division of a university) an instructor does."

528. Dodd, Stuart C. A Ph.D. Defined in Three Tenses. *Journal of Educational Sociology* 30:423–27, May 1957. (*Author:* Staff member, Washington Public Opinion Laboratory, University of Washington.)

Outlines three functions which the Doctor of Philosophy in sociology must intend to fulfill, and four tests by which a department of sociology measures a candidate's ability to perform these functions in the future. Then lists 18 steps which would help a candidate prepare himself for his triple role (teacher, researcher, practitioner).

529. Eckelberry, R. H. A New Study of a Notable Graduate Program. *Journal of Higher Education* 30:341–43, June 1959. (*Author:* Editor, the *Journal.*)

Describes the Doctor of Social Science Program at Syracuse University and reviews the recent evaluative study of the program (*see* No. 120). Concludes that "this program is an outstanding example of professionalized doctoral work in the best sense of that term." (*See* author's article, Graduate Degrees as Professional Degrees, No. 501.)

530. Ferber, Robert. The Administration of the Ph.D. Degree *Journal of Higher Education* 31:384–91, October 1960. (*Author:* Professor of Economics, University of Illinois.)

Discusses abuses in the dissertation system which harm the faculty, victimize the student, and impair the quality of the Ph.D. Recommends reforms which "follow a middle-of-the road policy the aim of which is to eliminate the most glaring inequities in administering the Ph.D. degree while operating within the framework of the existing system." Advocates measures for standardizing Ph.D. requirements, and the establishment of a national board of review in each major field to review accepted dissertations and to inform universities of specific fields in which their standards are below par.

531. Henle, Robert J. The Place and Function of the Ph.D. in the American Educational System. *National Catholic Educational Association Bulletin* 55: 144–49, August 1958. (*Author:* Dean, Graduate School, St. Louis University.)

Carefully defines the fundamental purpose of doctoral work as being a qualitative change in the manner of knowing rather than merely a quantitative growth in knowledge or greater skill in research, and argues that dissertation research should be conceived as subordinate and instrumental in the doctoral program rather than as its chief objective. Calls for truly creative rather than novel or partial dissertation research. Believes that once research training is seen to be subordinate to the goal of scholarship in the Ph.D. program, the objection that the Ph.D. is irrelevant to college teaching loses its force.

532. Hollis, Ernest V. *Toward Improving Ph.D. Programs.* Prepared for the Commission on Teacher Education. Washington: American Council on Education, 1945. 204 p. (*Author:* Principal Specialist in Higher Education, U.S. Office of Education.)

A study of Ph.D. programs in four parts. "First there is an historical sketch to show that the dynamics of American graduate schools have their origin in cultural conditioning. This is followed by an analysis of the preparation and 1940 placement of a decade's doctoral graduates. The effectiveness of current graduate education is then appraised by compilations of the opinion of producing and employing groups, as recipients of the Ph.D. degree themselves, especially as to how programs and procedures could be improved. The whole of this evidence is then used as a base for a series of general proposals representing the author's convictions." The study is guided by two major assumptions. "The first defines the graduate school of arts and sciences as an unspecialized professional institution, the primary responsibility of which is to help doctoral candidates acquire the basic education needed for such scholarly careers as placement data show they tend to follow.... The second assumption, deriving as a corollary from the first, holds that members of graduate faculties should work with students individually and in groups on the basis of their vocational purposes and in keeping with their ascertainable aptitudes and backgrounds."

533. **Hughes, Raymond M.** *A Study of the Graduate Schools of America.* Oxford, Ohio: Miami University, 1925. 32 p. (*Author:* President, Miami University, Ohio.)

A report to the Association of American Colleges of the results of a poll in which selected college and university professors were asked to rate the leading U.S. and Canadian graduate schools in their own fields. Combined ratings are reported for each of 20 fields, together with the names of the raters (varying between 16 in geography and 47 in psychology) and the faculties of each of the institutional departments included in each ranking. Also contains a discussion of ways in which graduate schools might help prepare their students for college teaching.

534. **James, Preston E.** The Dissertation Requirement. *School and Society* 88:147–48, Mar. 26, 1960. (*Author:* Professor of Geography, Syracuse University.)

Discusses the value of the dissertation requirement. Urges the importance of mastering research procedures and presenting the results in clear, well-organized English. Warns against practices which make an unnecessary ordeal of the dissertation and oral examination.

535. **Kandel, I. L.** Some Educational Paradoxes. *Educational Forum* 22:261-72, March 1958. (*Author:* Professor Emeritus of Education, Teachers College, Columbia University.)

A discussion of several aspects of American education. Includes a section (p. 271-72) on "The Ph.D. Octopus" calling for less stress on research and better preparation for teaching.

536. **Knox, John B.** The Language Requirement for the Doctorate. *Journal of Higher Education* 31:396-99, October 1960. (*Author:* Professor of Sociology, University of Tennessee.)

Argues that "there is convincing evidence that foreign languages may be used for different purposes in the various fields of study. The extent and nature of these different uses should be studied, and the language requirement adjusted to serve the purpose to which it will probably be put. For students in the social sciences, it appears that mastery of one language, together with study of the area in which the language is used, is an alternative to the present language requirement for the doctorate which should be made available."

537. **LeRoy, Gaylord C.** Two Problems in General Education. *Journal of Higher Education* 29:301-08, 350-51, June 1958. (*Author:* Associate Professor of English, Temple University.)

Proposes (1) that undergraduate general humanities courses allow freedom to instructors to take up what they know and are interested in, and (2) that departmental graduate programs include work in other languages and literatures which will prepare doctoral students for teaching general humanities courses.

538. **McCloy, C. H.** A Letter to the Dean of the Graduate College. *Modern Language Journal* 42:45-46, January 1958. (*Author:* Professor of Physical Education, State University of Iowa.)

Argues that graduate students should be prepared as scholars, and hence should be required to master their foreign languages in time to make some use of them in their graduate work, whether they keep up their scholarship afterwards or not.

539. **Marchand, James W.** Teaching, Testing, and the Ph.D. Language Requirements. *Modern Language Journal* 42:238-43, May 1958. (*Author:* Assistant Professor of German, Washington University, St. Louis.)

Argues that Ph.D. language examinations should test a student's ability to read rather than to translate a language, and that language courses for graduate students should teach them to read and comprehend rather than to write or speak. Suggests how such testing and teaching may be done.

540. **Ness, Frederick W.,** *ed. A Guide to Graduate Study: Programs Leading to the Ph.D. Degree.* Second edition, revised and enlarged. Washington: American Council on Education, 1960. 457 p. (*Author:* Academic Vice President and Dean, Dickinson College, Carlisle, Pa.)

A compilation of all existing Ph.D. programs, listed by institution and including admission requirements, both to graduate school and to candidacy for the Ph.D., fees, first-year aid, fields of study, prerequisites, areas of specialization within fields, residence requirements, graduate school faculty, and enrollments. Brings up to date the first (1957) edition. Contains an index to programs by fields of study. Doctoral degrees other than the Ph.D. awarded by American universities are listed, by institutions, in an appendix. An introductory essay, "Graduate Study and the Undergraduate," provides an excellent informal guide to graduate work for prospective or beginning students. Selective bibliography, p. 55–60.

541. NOCK, FRANCIS J. Foreign Languages as a Graduate Study Requirement. *College and University* 33:154-62, winter 1958; Same. *Modern Language Journal* 43:129-33, March 1959. (*Author:* Associate Professor of German, University of Illinois.)

Reports results of a survey of department heads at the University of Illinois concerning Ph.D. language requirements, concluding that "a foreign language requirement is here, and, for a while at least, here to stay. Furthermore, the requirement seems to be based on something more than the mere desire to set an additional hurdle in the way of the student hurrying toward his Ph.D." Examines the implications of this conclusion for doing something about the poor preparation of large numbers of graduate school entrants. Suggests standardization of testing, satisfying requirements through graduate reading courses, better preparation and better counseling in college and high school.

542. OLIVER, KENNETH. The Small College and the Big Crisis. *College and University* 36:7-13, fall 1960. (*Author:* Chairman of the Department of English and Comparative Literature, Occidental College, and Chairman of the Educational Council, Intercollegiate Program of Graduate Studies.)

Describes the Intercollegiate Program of Graduate Studies, a cooperative doctoral program for preparing college teachers. The cooperating institutions include the Associated Colleges at Claremont, Occidental College, the University of Redlands, and Whittier College.

543. OROWAN, EGON. Our Universities and Scientific Creativity. *Bulletin of the Atomic Scientists* 15:236-39, June 1959. (*Author:* Professor of Mechanical Engineering, Massachusetts Institute of Technology.)

A critical comparison of American graduate science programs and teaching methods with those of European universities. "The strategy of American university education and research is decisively influenced by this assumption [that fundamental discoveries and inventions will always be obtainable more cheaply by importation than by production at home]. American universities make better craftsmen of more students than do the European universities. But they provide less stimulation and fewer opportunities for the outstanding student, and only a small fraction of the all-important apprenticeship in high-level research work." Argues that a few special curricula at specially selected universities for the best students are needed not to burden them more than the average, but to relieve them of the merciless educational pressure necessary for good results from the average, to give them time for concentration, and to stimulate them by close contact with masters of their field.

544. PRICE, ROY A. What Are the Most Promising Procedures by Which Departments Can Pool Efforts to Improve the Preparation of College Teachers? In Association for Higher Education, *Current Issues in Higher Education, 1958.* Edited by G. Kerry Smith. Washington: National Education Association, 1958. p. 208-16. (*Author:* Professor of Social Science and Education, Maxwell Graduate School of Citizenship and Public Affairs, and Chairman, All-University Committee on Graduate Programs, Syracuse University.)

Discusses the philosophy and operation of the Syracuse Doctor of Social Science Program, and ten basic issues involved in the program, which are "closely interwoven with the debate as to the functions of the graduate school in higher education."

545. Revised Ph.D. Requirements. *School and Society* 86:444-45, Dec. 6, 1958.

Describes revised Ph.D. program at Northwestern University, in which, during second and subsequent years of graduate study, students are freed from fixed credit-hour requirements and given greater discretion in the extent of their participation in particular courses. "Under the new program, the main tests of academic accomplishment will be the general comprehensive qualifying examinations for admission to candidacy, the dissertation, and the final examination."

546. **Ridge, George R.** Emory's ILA: A New Doctorate. *College English* 21:471-72, May 1960. (*Author:* Assistant Professor of Modern Foreign Languages at Georgia State College.)

Description and defense of the cross-disciplinary program of the Institute of Liberal Arts at Emory, by an ILA graduate.

547. **Rockwell, Leo L.** Whence and Whither the Ph.D.? *Education Digest* 22:35-37, January 1957. Condensed from *School and Society* 84: 107-09, Sept. 29, 1956. (*Author:* Professor of English and Director, Division of Arts and Sciences, Colgate University.)

After a brief review of the early history of the Ph.D., discusses the appropriateness of the present Ph.D. program for college teachers and proposes the establishment of programs leading to doctoral degrees designating specific fields.

548. **Rosenhaupt, Hans.** House of Pedantry. *National Catholic Education Association Bulletin* 57:193-97, August 1960. (*Author:* National Director, Woodrow Wilson National Fellowship Foundation.)

Criticizes graduate schools and graduate programs for their pedantry and fragmentation of knowledge, and calls for more freedom in choice of studies for students and for breaking the dominance of departments.

549. **Sanders, Jennings B.** Degree Programs in General Social Science. *Higher Education* 15:138-42, April 1959. (*Author:* Specialist for Social Sciences, Division of Higher Education, U. S. Office of Education.)

An analysis of the curricular content of general social science programs at 312 institutions, including master's degree programs (offered by 70 institutions) and doctor's degree programs (offered by 6).

550. **Sinnott, Edward W.** Length, Breadth, and Depth: Three Dimensions in Graduate Education. *Graduate Journal* 2:54-60, spring 1959. (*Author:* Dean Emeritus, Graduate School, Yale University.)

Holds that the doctoral program should be (1) long enough to digest a field of knowledge and finish an original piece of research, but not unduly time-consuming; (2) broad enough to prevent a narrowing of interests and sympathies; and (3) most important of all, leisurely enough to encourage the student to explore the depths of his work and see its meaning and implications.

551. **Speer, David G.** For Standardized Graduate Language Requirements. *Modern Language Journal* 41: 292-93, October 1957. (*Author:* Assistant Professor of French, Purdue University.)

Proposes, as a remedy for the diversity and subjectivity of standards for graduate language examinations, that standardized tests appropriate to the needs of the various disciplines be constructed by language specialists and used uniformly by graduate schools.

552. **Stewart, Bruce.** Reflections on an Ant Heap: or, What Happened to the Ph. in Ph.D.? *American Association of University Professors Bulletin* 45:252-59, June 1959. (*Author:* Assistant Professor of Natural Science, Michigan State University.)

Compares scholars to ants: "ant-like, our specialists dig feverishly into nature and run about with their burdens, scarcely knowing what to do with them." Criticizes graduate education because it "merely 'clutters up the mind' and distracts it from detecting underlying principles by means of which diverse facts may be welded together in a meaningful way."

553. **Walker, Eric A.** A Second Look at American Education. *School and Society* 88:44-48, Jan. 30, 1960. (*Author:* President, Pennsylvania State University.)

Proposes a second, sober look at U.S. education, free from certain prejudices, particularly the assumption of a single standard of excellence; and briefly discusses six areas that are most in need of attention, one of which is "the way in which our collegiate programs are structured." Believes that 2-year technical institutes, 4-year colleges, and 7-year doctoral programs "should be separate, distinct programs especially designed to meet the aims and objectives of each type of training.... The doctor's program should be designed to satisfy its own objectives and purposes and not as a supplement to the four-year program."

554. **Walton, Harold F.; Loose, Gerhard; Garrett, Donald A.** Symposium. *Colorado Quarterly* 5:426-40,

spring 1957. (*Authors:* (1) Professor of Chemistry; (2) Professor of German; (3) Assistant Professor of Economics; all of the University of Colorado.)

A symposium on the Ph.D. language requirement. Walton argues the value of languages as tools of scholarship and as a mark of culture. Loose argues that the Ph.D. would lose its meaning without the language requirement and suggests, as an alternative for nonscholars, that professional degrees like the Ed. D. be established in other fields. Garrett argues that language requirements are hypocritical and in some respects educationally harmful, and that it will be folly to protect them at the expense of increasing the numbers of college teachers without Ph.D.'s.

555. WEBER, EUGEN J. The Shirt of Nessus. *Journal of Higher Education* 28:59-64, February 1957. (*Author:* Professor of History, University of California at Los Angeles.)

The increasing emphasis in Ph.D. programs upon earnestness and "safe, solid, productive, unexciting lines" of work seems likely to burn the life out of American higher learning, as the gift of Nessus did to Hercules.

556. WILSON, O. MEREDITH. The Ph.D. Program as a Preparation for College Teaching. *Association of American Colleges Bulletin* 44:55-59, March 1958. (*Author:* President, University of Oregon.)

Criticizes the doctoral program to the extent that it sacrifices perspective to specialization and that its route is poorly marked and the final goal uncertain. But concludes that "the degree is right because it joins the concept of present knowing and future learning. In spite of all complaints about the dissertation, the idea is important to good teaching. A teacher who is not probing the unknown may unconsciously convey the impression that knowledge is static—something to be memorized."

557. WRIGHT, BENJAMIN J. The Ph.D. Stretch-Out and the Scholar-Teacher. In *Vital Issues in Education.* A. E. Traxler, *ed.* Washington: American Council on Education, 1957. p. 140-51. (*Author:* President, Smith College, Massachusetts.)

Argues that the present practice of protracted study leading to the Ph.D. has had harmful effects upon the supply of teachers, upon college teaching, and even upon scholarly research; and that ". . . there is much to be gained and little, if anything, to be lost by returning to the earlier practice of the Ph.D. as ordinarily to be acquired by three years of study and research following the bachelor's degree."

See also Nos. 22, 43, 67, 118, 298, 414, 481, 486, 636, 659, 707, 779, 843.

c. Master's Programs

558. ASSOCIATION OF AMERICAN UNIVERSITIES. COMMITTEE ON GRADUATE WORK. The Master's Degrees. In *Journal of Proceedings and Addresses.* 1945. p. 111-25.

An appraisal of existing standards and practices governing work for the master's degree. Sixty-five different kinds of master's degrees were awarded by the 34 AAU members. Recommends a sharp reduction in the kinds of degrees awarded and a clearer designation of titles to indicate nature and purpose of training. Makes detailed suggestions involving the tightening of admission requirements, greater emphasis on subject-matter competence for secondary school teachers, retention of the thesis requirement, a reading knowledge of at last one foreign language, and comprehensive examinations for master's degree candidates.

559. BROGAN, ALBERT P. Restoring the Master's Degree. *Graduate Journal* 1:34-40, spring 1958. (*Author:* Formerly Dean of the Graduate School, University of Texas.)

Argues that ". . . we must restore the master's degree to its former position as a scholar's degree based on high standards of graduate achievement. We must make the master's degree adequate not only for the superior high school teacher but also for a large fraction of undergraduate teachers in our colleges and universities." Outlines a master's program suitable for scholar-teachers and other occupations as well, including requirements for admission, level of work, kinds of courses, the necessity of restoring the thesis, examinations, and length of study (three semesters of graduate-level work). Briefly discusses the problem of distinguishing between terminal and Ph.D.-preparatory programs.

560. CARMICHAEL, OLIVER C. A Three-Year Master's Degree Beginning With the Junior Year in College. *Journal of Higher Education* 31:127-32, March 1960. (*Author:* Consultant to the Fund for the Advancement of Education.)

Proposes and describes in detail a 3-year master's program designed to recruit and prepare college teachers. "It has been suggested that the rigorous and clearly defined programs leading to the M.D. or L.L.B. degrees challenge the ablest students, whereas the imprecise and unorganized course of study traditionally provided other graduate students often fails to attract the most talented. . . . The three-year M.A. as outlined is exacting and definite, and it clears the way for completing the requirements for the Ph.D. in two more years. It should appeal to the serious student and stimulate his best efforts throughout his undergraduate and graduate years."

561. ELDER, J. P. Reviving the Master's Degree for the Prospective College Teacher. *Journal of Higher Education* 30:133-36, March 1959. (*Author:* Dean of the Graduate School of Arts and Sciences, Harvard University.)

"If we grant that we cannot produce the college teachers for the next decade from the Ph.D. ranks, if we infinitely prefer a good M.A. to a poor Ph.D., if we instinctively fear the weakening effects of two kinds of Ph.D.'s, and if we determine that our future teachers are to be liberally and not professionally trained and conclude that most of these will be Masters, how shall we set up enough programs, and what should these programs consist of?" Describes the kind of master's program needed, one which is "entirely possible right now . . . especially in our well-qualified colleges."

562. GRUBER, HOWARD E., *and others. Toward the Improvement of Science Teaching: An Evaluation of the First Academic Year Institute, University of Colorado, 1957-1958.* University of Colorado Behavior Research Laboratory Report No. 9. Boulder, Colo.: University of Colorado, 1959. 45 p.; Summary. *Science* 132:467-68, Aug. 19, 1960. (*Author:* Associate Professor of Psychology, University of Colorado.)

A summary and evaluation of the first year of a National Science Foundation Academic Year Institute for high school science teachers. Discusses goals of the Institute and the concept of the master of basic science degree; the background, objectives, and reactions of the fellows; their performance and improvement; and the successes and failures of the program.

563. HAMMOND, LEWIS M. The Master's Degree Program. *Association of American Colleges Bulletin* 44:65-70, March 1958. (*Author:* Dean of the Graduate School, University of Virginia.)

"Assuming not enough Ph.D.'s will graduate in the next few years to meet the great demand for college teachers, how can the scholarly master's degree be rehabilitated to serve its original purpose of preparing teachers in the liberal arts?" Sets out a six-point blueprint for a scholarly master's degree. Such a degree can be raised to a position of respect if it is offered by colleges with a strong liberal arts tradition and a distinguished faculty, or by universities which are willing to give students in the liberal arts M.A. program "the same respect and scholarly care they are accustomed to lavish on their Ph.D. candidates."

564. JEX, FRANK B., *and* MERRILL, REED M. *An Evaluation of the First Academic-Year Institute, University of Utah, 1957-1958.* University of Utah Research Monographs in Education. Vol. 1, No. 2. Salt Lake City: The University, 1959. 65 p. (*Authors:* (1) Professor; (2) Associate Professor, both of Educational Psychology, University of Utah.)

A description of a National Science Foundation Academic Year Institute for high school science teachers: its objectives, administartion, curriculum, and the backgrounds of its participants. Reports participant reactions to the program, and evaluates the effectiveness of the Institute on the basis of two batteries of psychological and achievement tests taken by participants at the beginning and at the end of the institute year.

565. LEYS, WAYNE A. R. The Terminal Master's Degree. *Harvard Educational Review* 26:233-40, summer 1956. (*Author:* Dean of the Graduate Division, Roosevelt University, Chicago.)

Argues that the terminal master's program is legitimate, that it is the practical limit of aspiration for nine-tenths of U.S. graduate students and that the demand for it increases with the growing demand for professional competencies. Discusses three general professional objectives for these programs: (1) creating a basis for technical competence; (2) maintaining habits of reading and inquiry; and (3) developing professional attitudes.

566. MCCOY, RAYMOND F. Newer Developments in Masters Programs

(Summary). *National Catholic Educational Association Bulletin* 56:183, August 1959. (*Author:* Dean, Graduate School, Xavier University, Cincinnati.)

Describes four trends in master's programs: (1) at least two completely different concepts of graduate work at the master's level exist; (2) traditional scholarly programs are being strengthened, but not rapidly enough to make up for the Ph.D. shortage; (3) the number of professional degrees is growing rapidly, and the need for specific prerequisites for professional programs is diminishing; (4) there may well be a growing number of adult education programs leading to master's degrees.

567. **Oppenheimer, J. J.** A Summer Course for Teachers. *Journal of Higher Education* 28:216-19, April 1957. (*Author:* Head, Department of Education, University of Louisville.)

Report upon a pilot summer course, "The Humanities in American Culture," for teachers working for the master's degree or Advanced Certificate in Education. The course attempted to meet the need of most teachers for graduate courses which "enhance their personal and professional growth" rather than for "narrow specialization and research."

568. **Ostlund, Leonard A.** A Scientific Evaluation of a Scientific Program. *School Science and Mathematics* 59:207-18, March 1959. (*Author:* Professor of Psychology, Kent State University.)

An evaluation of all aspects of a pilot National Science Foundation Academic Year Institute at Oklahoma State University, Stillwater, for high school science and mathematics teachers. Discusses selection procedures, ascertaining students' interests, placement, students' opinions of courses offered and of the program as a whole, their academic success, and their improvement in general scientific knowledge.

569. **Sarah Lawrence College. Committee on Graduate Studies.** *A Graduate Program in an Undergraduate College: The Sarah Lawrence Experience.* Edited by Charles Trinkaus. Middletown, Conn.: Wesleyan University Press, 1956. xx, 119 p.

A study of the problems involved in developing and establishing an M.A. program at Sarah Lawrence College: conception, preliminary planning, selecting students and planning their programs, and accounts of the experiences of seven students. Final chapter discusses generally the problems and values of an M.A. program in the small college. Introduction by Harold Taylor, President of the College: "These colleges are certainly unable to help in a massive way to produce the number of scholars and teachers needed for the future, but they have the best opportunity of all to concentrate on new ways of lending the personal resources of their campus communities to the development of thoroughly trained, interested and interesting young teachers."

See also Nos. 22, 43, 45, 99, 520, 521, 522, 549, 579, 604, 632, 659, 707.

2. Professional Programs

570. **Blauch, Lloyd E.** Professional Education. In *Encyclopedia of Educational Research.* Edited by Chester W. H. Harris for the American Educational Research Association. New York: The Macmillan Company, 1960. p. 1056-63. (*Author:* Assistant Commissioner, Division of Higher Education, U.S. Office of Education.)

Reviews descriptive and research studies, primarily studies done since 1950, of professional education in architecture, dentistry, engineering, home economics, law, library science, medicine, nursing, pharmacy, social work, theology, and in hospital administration, optometry, and physical therapy. Bibliography, 128 titles.

571. ———, *ed. Education for the Professions.* Prepared for the U.S. Department of Health, Education, and Welfare. Washington: U.S. Government Printing Office, 1955. 317 p. (*Author:* Chief for Education in the Health Professions, Division of Higher Education, U.S. Office of Education.)

Describes the development and academic requirements and available programs in each field of professional education. Two introductory chapters on the professions and professional education in the United States, followed by 34 chapters, each devoted to a single profession, each written by an authority in the field. Selected bibliographies follow each chapter.

572. **Fine, Benjamin.** *Fine's American College Counsellor and*

Guide. 1958–1959 Edition. Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1957. 240 p. (*Author:* Education Editor, New York Times.)

An attempt to answer the questions of high school graduates seeking a college or university education. The book is divided into four sections. Section I, College Life Today, describes various salient aspects of college life. Section II, The Different Kinds of College Education, describes the several kinds of colleges, and includes sections on the graduate division in the university and the professional school. Section III gives thumbnail sketches of some 30 major professional programs. Section IV provides tables of information about all U.S. colleges, universities, and medical schools (type of institution, accreditation, tuition, board and room, scholarships and loans, size, etc.)

573. Harrison, R. W. Graduate and Professional Education in a Changing Sciene. *Hospital Administration* 4:21-32, summer 1959. (*Author:* Vice President and Dean of Faculties, University of Chicago.)

Discusses the conflict within American universities between "the ivory-tower spirit" and the interests of those concerned with developing specialized professional curriculums. Defends the ivory tower as a bulwark against overprofessionalization and degradation of standards, but praises the universities for making "provision for the basic work of those whose interests arise out of desire to solve practical problems."

574. McGlothlin, William J. *Patterns of Professional Education.* New York: G. P. Putnam's Sons, 1960. 288 p. (*Author:* Vice President, University of Louisville.)

A description and comparison of education in ten professions. Six professions focus on people (the "helping" professions): medicine, nursing, law, teaching, social work, clinical psychology. Four professions focus on things (the "facilitating" professions): architecture, business, engineering, and veterinary medicine. Nine chapters are included, dealing with (1) the aims of professional education; (2) curriculum; (3) methods of instruction; (4) faculty; (5) recruitment and selection of students; (6) relations between the professional school and the university; (7) accrediting; (8) instruction in professional ethics and (9) conclusion, containing several assumptions which, because of similarities found to exist in professional education, supply the guides by which the policies and practices of professional schools are determined. Bibliography: 352 titles.

See also Nos. 22, 33, 43, 45, 54, 66, 67, 75, 76, 98, 99, 107, 117, 181, 188, 189, 357, 503, 506, 507, 509, 515, 517, 521, 523, 540, 565, 777, 867, 880.

3. Preparation for College Teaching

575. Albright, A. D., *and* Barrows, John E. *Preparing College Teachers: A Project Report.* Lexington, Ky., and Atlanta, Ga.: University of Kentucky and Southern Regional Education Board, 1959. 155 p. (*Authors:* (1) Director of Project and Professor of Education, University of Kentucky; (2) Project Associate.)

Organized in five sections. Section 1 identifies needs, problems, issues, and conditions relevant to preparing college teachers. Section 2 describes activities and programs for graduate students and new instructors in selected institutions outside the South. Section 3 describes programs for preparing prospective college teachers in Southern graduate schools. Section 4 contains three papers presented at the Regional Seminar on Preparation for College Teaching: The Role of College Teaching, by Truman M. Pierce; The New American Scholar, by Nicholas Hobbs; and The Evaluation of College Teaching, by Ralph W. Tyler. Section 5 summarizes findings and presents several "major clusters of ideas" for improving the preparation of college teachers. Bibliography: p. 148-55.

576. Association of Graduate Schools. Committee on Policies in Graduate Education. Report. In *Journal of Proceedings and Addresses.* 11th Annual Conference, 1959. p. 36-43.

Discusses the need for an appropriate degree program for college teachers and recommends that AGS institutions offer a new 2-year program designed as preparation for college teaching and leading to a doctor of (subject) degree or to a master's degree which would be acceptable to the colleges. Also presents statements of purpose and scope of the six associations of graduate schools.

577. Axelrod, Joseph, *ed. Graduate Study for Future College Teachers.* Washington: American Council on Education, 1959. 111 p. (*Author:* Professor of Humanities and Curricu-

lum Evaluator, San Francisco State College.)

Reports discussion, largely verbatim, at a 2-day conference on college teacher preparation convened in the spring of 1958 by the American Council on Education. The 41 participants were representatives of colleges, universities, and educational associations, and included 18 deans of graduate schools. The following topics were discussed: What are Ph.D.'s good for? Should Ph.D. programs be modified? Is the Ph.D. shortage critical? What is the importance of the Ph.D. dissertation? Is there a chasm between research and teaching? What are M.A. programs worth? What considerations should govern a philosophy of M.A. programs? Are small liberal arts colleges equipped to train college teachers? How can M.A.'s best be used in college teaching? Is pedagogic training necessary, and what should it consist of?

578. **BARZUN, JACQUES.** The Oddest Profession in the World. *Education Digest* 22:6-8, March 1957. (*Author:* Dean of the Graduate School, Columbia University.)

Reprint from *Expanding Resources for College Teaching* (No. 716). Discussion of what should and should not be done in providing for the young college teacher, and of the shortcomings of M.A. and Ph.D. programs.

579. **BEACH, LEONARD B.** What Should Be the Role of the Master's Degree in the Preparation of College Teachers? In Association for Higher Education, *Current Issues in Higher Education, 1960*. Edited by G. Kerry Smith. Washington: National Education Association. p. 187-89. (*Author:* Dean of the Graduate School, Vanderbilt University.)

Proposes a 2-year M.A. program for the preparation of college teachers, which would include a major in subject field, a minor in education, a teaching apprenticeship, and a thesis based on independent research. Commends O. C. Carmichael's proposal (*see* No. 560) of a 3-year M.A. starting with the junior undergraduate year. Also recommends reorganizing the contest of the curriculum to provide greater breadth of learning.

580. **BERELSON, BERNARD.** Graduate Education and the Preparation of College Teachers. In John W. Gustad, ed., *Faculty Supply, Demand, and Recruitment.* Proceedings of a Regional Conference Sponsored by the New England Board of Higher Education, Nov. 5-7, 1959. Winchester, Mass.: The Board, 1959. p. 74-92. (*Author:* Professor of Behavioral Science, University of Chicago.)

First demonstrates "how old, how familiar, and in a sense how sterile the debate over the graduate school and the preparation of college teachers has been." Then examines the current validity of "the market research argument: prepare the product directly for its subsequent use. Most doctorates go into college teaching and few make real contributions in research; so the graduate school should organize its training accordingly." Points out that research, not undergraduate teaching in a liberal arts college, has become the major occupation of doctoral graduates, and that well over a majority of Ph.D.'s have published within 8 or 9 years after receiving the doctorate. Believes that the subjective argument "that college teachers are in themselves more important than any alternative products of the graduate school and hence should be given priority," is open to dispute and, with the growing importance of research, weaker today than in the past.

581. **BLEGEN, THEODORE C.,** *and* **COOPER, RUSSELL M.,** *eds. The Preparation of College Teachers.* Washington: American Council on Education, 1950. 186 p. (*Authors:* (1) Dean of the Graduate School; (2) Assistant Dean, College of Science, Literature, and the Arts; both of the University of Minnesota.)

Part One contains seven addresses delivered at a conference sponsored by the American Council on Education and the U.S. Office of Education, December 8-10, 1949; Part Two contains the reports of the conference's six work groups. The topics of the addresses are the following: (1) Background of the Conference, by George F. Zook; (2) Education Cannot Stand Still, by Theodore C. Blegen; (3) The Preparation of Liberal Arts Teachers, by Harry J. Carman; (4) What Kind of Teachers Do the Colleges Need? by Audrey A. Potter; (5) Graduate Work for College Teachers, by Earl J. McGrath; (6) Problems in College Teaching, by Paul Klapper; (7) The Student Looks at College Teaching, by Richard J. Medalie. The subjects of the work group reports are the following: (1) Recruitment and selection; (2) academic preparation; (3) the dissertation; (4) knowledge of teaching problems; (5) apprenticeship; (6) institional programs.

582. **BOWEN, ROBERT O.,** *ed. The New Professors.* New York: Holt, Rinehart and Winston, 1960. 218 p.

(*Author:* Assistant Professor of English, University of Washington.)

Nine essays, seven by young college and university faculty members, discussing college teaching as a way of life. "The symposium shows how professors see themselves, what they find important in their work, how they came to be professors. In short, it shows what sort of men they are personally. . . ."

583. **Buxton, Claude E.** *Guide to College Teaching: A Psychologist's View.* New York: Harcourt, Brace & Company, 1956. 404 p. (*Author:* Chairman, Department of Psychology, Yale University.)

The initial chapters discuss the development of American higher education and its strengths and weaknesses. Attention is then given to the role of the individual undergraduate faculty member. Chapters 5, The Career of the College Teacher, and 6, Planning the Introductory Course, offer particularly pertinent advice to the beginning instructor. A discussion of the major techniques of teaching follows, and the final chapters are devoted to a discussion of student characteristics. Fourteen chapters in all. Bibliography: 295 items.

584. **Campbell, James M.** An Evaluation of the Present Status of Teaching in Our Undergraduate Colleges: Impressions of Basic Items Which Affect It. *National Catholic Education Association Bulletin* 54:113-20, August 1957. (*Author:* Dean, College of Arts and Sciences, The Catholic University of America.)

An analysis of circumstances and attitudes affecting teaching in American Catholic colleges, including the advantage and disadvantages of the dependence of the Catholic colleges on the major seminary for faculty and administrators; and a listing of defects in teaching and esteem which result from these conditions.

585. Career Instructors at University of Massachusetts. *School and Society* 86:227-29, May 10, 1958.

Describes program, beginning in fall of 1958, in which students working on their dissertations are to be hired as instructors, assigned 6 hours of teaching a week under the tutelage of an experienced teacher, and assisted in their research by professors from the University of Massachusetts and Smith, Amherst, and Mount Holyoke Colleges.

586. **Charles, Searle F.,** *and* **Summerer, Kenneth H.** Building a Junior College Faculty. *Junior College Journal* 29:421-23, March 1959. (*Authors:* (1) Assistant Dean; (2) Administrative Assistant, both of Flint Junior College, Flint, Mich.)

Summarize six important qualifications for junior college teaching and describe the effort at Flint Junior College to achieve balance in several respects among its faculty.

587. College Teacher Problem: What Kind of Preparation? *Higher Education in New England* 4, No. 1:4-5, March 1960.

Summarization of some of the major ideas presented to participants at the second conference of the New England Board of Higher Education's college teacher program, held in Boston on February 11 and 12, 1960.

588. **Cutten, George B.** The College Professor as Teacher. *School and Society* 86:372-75, October 25, 1958. (*Author:* President Emeritus, Colgate University.)

Argues that "productive scholarship" is not an appropriate qualification for college teaching, but that it is accepted as such, and college teaching is generally poor teaching in consequence. "The criticism of the Ph.D. as a preparation for teaching in colleges is that it implies if a person knows a subject, he can teach it—a false and dangerous assumption."

589.———. The Professor and the Art of Teaching. *School and Society* 87:36-40, Jan. 31, 1959; Same. *Graduate Journal* 2:269-77, fall 1959. (*Author:* See above.)

Discusses the art and present state of college teaching. Concludes with a suggested reorganization of the university whereby undergraduate departments would be separated from the graduate school and professors in the undergraduate departments would be employed and paid as teachers. Their training would consist of "a creditable B.A. degree, a stiff M.A. degree in the subject of their specialty, and one extra year's study and training in teaching as an art, leading to an appropriate degree. . . ." Two vice presidents would be appointed, a director of teaching and a director of research.

590. **Diekhoff, John S.** *The Domain of the Faculty in Our Expanding Colleges.* New York: Harper and Brothers, 1956. 204 p. (*Author:* Professor of Education, Hunter College, New York.)

A study of college teaching in two parts. Part I, Enhancing Faculty Competence, contains chapters on the place of the Ph.D. program in preparing college teachers and on teaching internships. Part II deals with adult education.

591. ———. *Tomorrow's Professors: A Report of the College Faculty Internship Program.* New York: Fund for the Advancement of Education, 1960. 91 p. (*Author:* Dean, Cleveland College, Western Reserve University.)

An appraisal of the College Faculty Internship Program, which, from 1953 to 1958, provided an organized induction into college teaching for selected young teachers at 18 colleges. Includes a discussion of the question whether the responsibility for providing such internship should be assigned to the graduate school or to the first faculty the young scholar joins (p. 56–72).

592. ———. Untaught Teachers. *Saturday Review* 43:90, 103, Oct. 15, 1960. (*Author:* See above.)

Argues the need and efficacity of some formal training in teaching for young college teachers, but argues also that this is not the function of the graduate school. Believes that the appropriate time for the young instructor to learn to teach is during the first year of his full-time professional academic career.

593. DUNKEL, HAROLD B. Training College Teachers: A Progress Report from the University of Chicago. *Journal of Higher Education* 29:1-7, 57-58, January 1958. (*Author:* Professor of Education, University of Chicago.)

Describes in detail the University of Chicago's half-time fellowship program of apprenticeship and seminars in college teaching for ten students in the last year of their work for the doctorate.

594. DYKSTRA, JOHN W. The Ph.D. Fetish. *School and Society* 86:237-39, May 24, 1958; Reply. Davis, James M. 86:458-59, Dec. 20, 1958. (*Author:* Staff member, Utica College of Syracuse University.)

Argues that completion of the Ph.D. program signifies subject-matter mastery and research ability, but not competence in teaching; and that the continuing illogical insistence upon the Ph.D. as a criterion for hiring or promotion can be attributed to its convenience for administrators and the personal advantages derived from it by various vested interests. Davis (Director, The International Center, University of Michigan) replies that the dissertation is not a hurdle, but an opportunity; that "the drive and energy necessary for completion of the dissertation are not unlike the output required for effective independent work in teaching and administration."

595. ECKERT, RUTH E. College Teachers: Improvement of Preparation. In Association for Higher Education, *Current Issues in Higher Education, 1956.* Edited by G. Kerry Smith. Washington: National Education Association, 1956. p. 147-55. (*Author:* Professor of Higher Education, University of Minnesota.)

Sets forth six predictions regarding the preparation of future college teachers; briefly reviews the historical background of the attempt to reform Ph.D. programs in the interest of teacher preparation; describes seven kinds of innovating programs currently in operation; and calls for continuing research and innovation.

596. EMMANUEL, SISTER M. Sisters as Student-Teachers. *Catholic School Journal* 58:34-35, April 1958. (*Author:* Graduate Student, Marquette University.)

Describes a program of graduate teaching assistantships for sisters at Marquette University.

597. ERICKSON, CLIFFORD E. What Are the Most Promising Procedures by Which Departments Can Pool Efforts To Improve the Preparation of College Teachers? In Association for Higher Education, *Current Issues in Higher Education, 1958.* Edited by G. Kerry Smith. Washington: National Education Association, 1958. p. 204-08. (*Author:* Dean, College of Education, Michigan State University.)

Points out the growing necessity for interpenetration of disciplines and considers ways in which interdepartmental merging of knowledge may be realized. Urges encouragement of extradepartmental study, the creation of interdepartmental seminars and cooperative courses, and increased opportunity for teaching internships.

599. FAHEY, GEORGE L., *and* MASONER, PAUL H. An Interdisciplinary

Seminar in College Teaching. *Journal of Teacher Education* 11:391–97, September 1960. (*Authors:* (1) Professor of Education and Psychology; (2) Dean of the School of Education; both of the University of Pittsburgh.)

A description and evaluation of a seminar in college teaching at the University of Pittsburgh for graduate students and faculty members in all academic and professional fields. The seminar meets weekly for a semester, each meeting being devoted to a topic relating to college teaching and conducted by a senior faculty member from one of a variety of departmental fields.

600. Foundation-Financed Activities Bearing Upon College Teaching. *Educational Record* 37:153-62, April 1956.

Reports of current or very recent projects designed to explore possible ways of improving faculty preparation which are supported by grants from Fund for the Advancement of Education, Ford Foundation, Carnegie Corporation, General Education Board, Danforth Foundation, Russell Sage Foundation, and John Hay Whitney Foundation.

601. Graduate Preparation of Teachers of General Education: A Controversy. *College and University Bulletin* 9, No. 11, March 15, 1957.

A debate whether or not changes in graduate education are necessary to meet the needs of the general education movement. Statements in favor of change are made by Harold Taylor (President of Sarah Lawrence College) and Roy A. Price (Professor, Maxwell Graduate School of Citizenship and Public Affairs, Syracuse University). Statements against change are made by Kenneth B. Murdock (Chairman, Committee on General Education, Harvard University) and Robert C. Pooley (Director, Department of Integrated Liberal Studies, University of Wisconsin). Each participant also makes a brief rebuttal of the statements of the opposition.

602. Graduate Training for College Teaching: A Panel Discussion. *American Association of University Professors Bulletin* 46:294-99, September 1960.

Three statements prepared for a panel discussion, by Earl J. McGrath (Executive Officer, Institute of Higher Education, Teachers College, Columbia University), Dean Mark H. Ingraham (Dean of the College of Letters and Science, University of Wisconsin), and Bower Aly (Professor of Speech, University of Oregon, and Chairman of the AAUP Committee on Accrediting of Colleges and Universities). McGrath criticizes graduate programs in the light of the salient aims of college teaching and recommends that college teaching be recognized as a specific profession; Ingraham argues that the graduate schools are, by and large, doing well their proper job of inducting people into the community of scholars; Aly propounds a paradox of the times and raises 14 questions about tendencies in higher education.

603. GRAETZER, GUNTHER R. A Teacher Internship Program. *Journal of Engineering Education* 47:745-49, May 1957. (*Author:* Dean, School of Engineering, Air Force Institute of Technology, Wright-Patterson Air Force Base, Ohio.)

Reports recommendations of a committee of the Air Force Institute of Technology which studied the question, "What assistance can be given to a young instructor to become an effective teacher?"

604. GUSTAD, JOHN W., *ed. Faculty Preparation and Orientation.* Proceedings of a Regional Conference Sponsored by the New England Board of Higher Education, Feb. 11-12, 1960. Winchester, Mass.: The Board, 1960. 111 p. (*Author:* Director, College Teacher Program, NEBHE.)

Contains two major addresses, three series of panel speeches, a report of a questionnaire survey of faculty orientation practices in New England colleges and universities, and a summarization of the proceedings by Everett C. Hughes. The topic of the first panel, What Administrators Look for When Hiring New Faculty Members, is discussed from the points of view of a liberal arts college, a private university, a State university, and a teachers college. The second panel consists of the following five papers, all concerned with college teacher preparation: (1) Preparation of the New American Scholar, by Leonard B. Beach; (2) Theses on the Preparation of College Teachers, by Bernard Berelson; (3) Toward a Design for Teacher Education, by Theodore Brameld; (4) A Three-Year Master's Degree Program, by Oliver C. Carmichael; (5) To Speak or Teach—That Is the Question, by J. P. Mather. The topic of the third panel is "Orientation Programs in New England Institutions." The first address, College Teachers and the Learning Process, by Wilbert J. McKeachie, is a discussion of various aspects of the learning and teaching processes. The second address, The Role and Problems of the Graduate School in Teacher Preparation, by

John G. Darley, is a miscellany of observations upon the workings of the graduate enterprise and their effects upon the ability of the graduate schools to reform themselves.

605. Henderson, Leon N. An Internship in Junior College Teaching. *Junior College Journal* 27:388-95, March 1957. (*Author:* Professor of Secondary Education and Junior College Consultant, University of Florida.)

Argues the need for professional preparation in teaching for junior college teachers; relates the establishment of the program in junior college education at the University of Florida; describes the internship part of the program; and discusses the background and problems of developing a junior college teaching internship within the framework of a graduate school.

606. Hillway, Tyrus. *The American Two-Year College.* New York: Harper and Brothers, 1958. 276 p. (*Author:* Professor of Education, Colorado State College.)

"This book attempts to supply a comprehensive and understandable picture of the American two-year college in compact, readable form. It is intended partly to serve as a textbook for introductory courses, dealing with junior and community colleges." Chapter 9, Teachers and Administrators (p. 185-206), discusses qualifications and professional training of junior college teachers, requirements for certification, training institutions, and working conditions.

607. Houpt, William S. Supply, Demand, and Qualification Factors Related to Teaching Personnel for California's Colleges and Universities. *Journal of Educational Research* 51:373-77, January 1958. (*Author:* Director, Allan Hancock College, Santa Maria, California.)

Reports findings of a questionnaire survey of 240 college and university administrators in California as to what competencies a junior college, college, or university teacher should possess. Makes 12 recommendations for preparation and recruitment.

608. Houston, Neal B., *and* Umstattd, James G. Teacher Personnel Problems in Junior and Senior Colleges and Universities. *Review of Educational Research* 28:234-41, June 1958. (*Authors:* (1) Assistant, Department of Curriculum and Instruction, College of Education, University of Texas; (2) Professor of Education, University of Texas.)

Review of recent research under eight headings: Bibliography; Preparation and Certification; Supply and Demand of College Teachers; Rank, Promotion, and Tenure; Rating the College Teacher; Salaries of College Teachers; Academic Freedom; Retirement. Bibliography: 38 titles.

609. Jantzen, J. Marc, *and* Cobb, Emerson G. A Teaching Doctorate Degree for Junior College Instructors. *Junior College Journal* 29:213-14, December 1958. (*Authors:* (1) Dean, School of Education; (2) Chairman, Department of Chemistry; both of College of the Pacific, California.)

Describes a Doctorate in Education program established at College of the Pacific in 1958 which "attempts to bridge the gap between the research-centered Ph.D. program and the undue concentration on professional education of the Doctor of Education degree."

610. Kinerson, Kendall Scott. *A Study of the Academic and Professional Preparation of Junior College Teachers of Physical Science.* Doctoral dissertation (Ph.D.). East Lansing: Michigan State University, 1957. 194 p.; Abstract in *Dissertation Abstracts* 19, No. 1:93, July 1958.

"The purpose of this study is to determine what would appear to constitute the most appropriate training for prospective junior college physical science teachers as seen by junior college teachers and administrators, and by a group of the outstanding leaders in the field of junior college education." Based on questionnaire responses from 186 teachers in 124 junior colleges in 37 states, 104 administrators in these colleges, and 38 national authorities in junior college education.

611. Kozacik, Patricia. Future Professors, Coming Up! *College and University* 34:205-07, winter 1959. (*Author:* Graduate student, Indiana University School of Education.)

Describes a course in college teaching, combining internship under a departmental professor and seminar discussion of teaching problems, given by the School of Education for graduate students in Education at Indiana University. Suggests that other departments would profit from similar courses.

612. LANGSDORF, WILLIAM B. The Preparation of the Academic Teacher —Problems of Depth and Breadth. *Junior College Journal* 29:24-28, September 1958. (*Author:* President, Pasadena City College, California.)

Delineates the optimum amounts of depth and breadth of subject-matter knowledge which academic junior college teachers should have. Concludes by listing five characteristics of the good academic junior college teacher.

613. LEARY, LEWIS. The Scholar as Teacher. *School and Society* 87:362-63, Sept. 26, 1959. (*Author:* Professor of American Literature, Columbia University.)

A rebuttal of G. B. Cutten's argument that it is false and dangerous to assume that if a person knows a subject he can teach it (*see* No. 588). Argues that "we must turn [this contention] to its reverse side to examine its implied parallel, equally false and infinitely more dangerous, that knowledge of subject is not necessary." Calls the Ph.D. a "reminder that the aim of education is knowledge and of teaching the communication of knowledge."

614. LEVY, LEONARD. *The Preparation of Community College Teachers.* Doctoral dissertation (Ed.D.). Austin: University of Texas, 1957. 273 p.; Abstract in *Dissertation Abstracts* 18, No. 2:512-13, February 1958.

"From a list of differences between the job requirements and the opportunities for preparation available to community college teachers, a list of needs was identified. The courses now being offered [by the 14 colleges and universities listed by the American Association of Junior Colleges as providing for work in this field] were then reviewed to determine how completely the professional needs are currently being met. Finally, a list of needs relative to the preparation of community college instructors was inferred from the differences between the job needs and the needs being met through available preparation for community college teaching."

615. LOEHWING, WALTER F. What Are the Most Promising New Approaches to the Graduate Preparation of College Teachers? In Association for Higher Education, *Current Issues in Higher Education, 1959.* Edited by G. Kerry Smith. Washington: National Education Association, 1959. p. 212-16. (*Author:* Dean of the Graduate College, State University of Iowa.)

Discusses interdisciplinary courses, summer session programs, master's programs in liberal arts colleges, more effective use of library facilities, and expanded laboratory activities.

616. LONG, RICHARD A., *and* JONES, IVA G. A Graduate Program for Teachers of the Humanities. *Journal of Teacher Education* 10:82-85, March 1959. (*Authors:* Both assistant professors of English at Morgan State College, Baltimore.)

Outline a suggested curriculum leading to the Ph.D. degree for college teachers of the humanities.

617. MCCUTCHEON, ROGER P., *ed.* *The Place of the Graduate School in the Training of College Teachers.* New Orleans: Tulane University Bookstore, 1952. 55 p. (*Author:* Dean of the Graduate School, Tulane University.)

Report of a conference of graduate deans and faculty members of Southern graduate schools, held at Tulane University, November 15–17, 1951. Includes addresses by Theodore C. Blegen (Dean of the Graduate School, University of Minnesota), Henry H. Hill (President of George Peabody College for Teachers), and Francis Keppel (Dean of the Graduate School of Education, Harvard University), and reports of study groups on the humanities, the social studies, and the physical and biological sciences.

618. ———. The Preliminary Training of College Teachers. In *Proceedings of the American Conference of Academic Deans, 1957.* Esther Raushenbush, Secretary and editor, Bronxville, N.Y.: Sarah Lawrence College, 1957. p. 18-32. (*Author:* Director, Vanderbilt University Program for the Preparation of College Teachers.)

Describes ways in which Vanderbilt University and several other graduate schools are introducing Ph.D. candidates to "the art and business of college teaching." Also describes a few attempts to supply an antidote to over-specialization. Discusses the problems faced by such experimental programs.

619. ———. The Preparation of College Teachers. *Graduate Journal* 1:139-43, fall 1958. (*Author:* Southern Coordinator, Woodrow Wilson National Fellowship Foundation.)

Answers *yes* to the question, "Can room be found in the Ph.D. program for some training, apprenticeship or otherwise, for the 65 percent of the candidates who are going into college teaching, without endangering the admitted excellence of the present product and without prolonging the time required for the degree?"

620. McGrath, Earl J. Let's Free Liberal-Arts Teaching from the Domination of Graduate Schools. *National Education Association Journal* 49:26-28, April 1960. (*Author:* Executive Officer, Institute of Higher Education, Teachers College, Columbia University.)

"Although the graduate faculties are largely responsible for the present shortage of college teachers, that is not their sole adverse effect on liberal-arts colleges. By transforming liberal-arts colleges from institutions for general education into agencies for the initial vocational education of scholars, the graduate schools in a measure deny society the services which the colleges ought to perform." Proposes various reforms of graduate education for the college teacher, and suggests that the teachers colleges will undertake the responsibility of supplying the kind of teacher needed if the graduate schools fail to do so.

621. McKeachie, Wilbert James, *and* Kimble, Gregory A. *Teaching Tips: A Guide-Book for the Beginning College Teacher.* 4th edition, Ann Arbor, Mich.: George Wahr Publishing Co., 103-105 North Main St., 1960. 194 p.

Not examined.

622. Pfnister, Allan O. The Preparation of College Teachers. *School and Society* 88:348–50, Oct. 8, 1960. (*Author:* Associate Professor of Higher Education, University of Michigan.)

Defines "teaching" and discusses the elements in the preparation and work of college teachers which do and do not help improve teaching effectiveness.

623. Rice, Warner G. Preparation of Teachers in Colleges and Universities. *College English* 20:413–14, May 1959. (*Author:* Professor of English, University of Michigan.)

Discusses problem of incorporating training for teaching into doctoral programs and lists elements usually included in programs requiring such training.

624. Robson, John B. Certification of College Teachers. *Peabody Journal of Education* 35:352–57, May 1958. (*Author:* Faculty member, Northwestern State College of Louisiana.)

Without suggesting any specific requirements to be met for certification, argues that "college teachers wear no special haloes that should exempt them from proving that they are worthy of having young people committed to their care and guidance."

625. Seidlin, Joseph. Tolerable Differences. *Liberal Education* 45:263–67, May 1959. (*Author:* Dean, Graduate School, Alfred University.)

Believes that differences between proponents and opponents of professional preparation in teaching, including college-level teaching, have become tolerable. Argues that the time has come to pool efforts "to develop 'courses of study' for teacher preparation so strikingly functional and valid that only a genius or a quack would dare teach without such preparation."

626. Stiles, Lindley J. Apprenticeship for College Teaching. *School and Society* 87:463, November 7, 1959. (*Author:* Dean, School of Education, University of Wisconsin.)

Finds two inherent weaknesses in the apprenticeship system of preparing college teachers: it emphasizes imitation rather than creativity, and it fails to provide systematic study of the theory and principles of learning and teaching.

627. Stone, James C. The Preparation of Academic Instructors for the Junior College. *Junior College Journal* 28:368–71, March 1958. (*Author:* Director of Teacher Education and Associate Professor of Education, University of California, Berkeley.)

Discusses present deficiencies in preparation of junior college academic instructors, desirable characteristics of an adequate program of preparation, and the need for junior college teacher certification in California.

628. STROTHMANN, F. W. What Changes Will Be Necessary or Desirable in the Preparation of College Teachers? In Association for Higher Education, *Current Issues in Higher Education 1957*. Edited by G. Kerry Smith. Washington: National Education Association, 1957. p. 182–86. (*Author:* Executive Head, Department of Germanic and Romance Languages, Stanford University.)

Advocates three educational experiences for the future undergraduate teacher, over and above normal course and seminar work: (1) Participation for a short period in some creative research activity not set up by himself, (2) writing a descriptive dissertation which digests and reformulates the results of the research of others, and (3) a demonstration of his ability to present a body of material by clear exposition and to conduct a discussion which is affective rather than informative in intent.

629. SÜSSKIND, CHARLES. On Teaching Science Teachers to Teach. *American Journal of Physics* 25:200–02, March 1957; Same. *Improving College and University Teaching* 5:46–48, spring 1957. (*Author:* Assistant Professor of Electrical Engineering, University of California.)

Proposes a five-step program of instruction in teaching for beginning and prospective college teachers, with each successive step encompassing most of the features of the step below: (1) Supervision of laboratory instruction, (2) regular conferences between graduate assistants and senior faculty members, (3) supervision of classroom teaching, (4) a seminar for discussion of teaching methods, (5) a formal course conducted by a senior faculty member. Many elements of this program are already in existence wherever there are graduate teaching assistants.

630. TEAD, ORDWAY. Junior College Teaching: Challenge or Dilemma? *Junior College Journal* 29:448–55, April 1959. (*Author:* Vice President and Director, Harper and Brothers Co.)

Defines the objectives of junior college education and teaching ("to illuminate specialized training with the liberal spirit"), and calls for working alliances between regional junior college associations and graduate schools to help bring proper training programs for junior college teachers into being.

631. VELTMAN, PETER. *A Study of the Pre-Service and In-Service Training of Full-Time Teachers in Coeducational Protestant Church-Related Junior Colleges.* Doctoral dissertation (Ph.D.). Evanston, Ill.: Northwestern University, 1959. 253 p.; Abstract in *Dissertation Abstracts* 20, No. 9:3656, March 1960.

Questionnaire study of 436 full-time teachers in 46 junior colleges, 46 administrators, and 33 college board presidents regarding actual and desirable preservice preparation and inservice activities of junior college teachers. Finds many gaps between qualifications desired by administrators and board presidents and qualifications possessed by teachers. Makes recommendations to teacher training institutions and to junior colleges themselves.

632. WALTERS, EVERETT. A New Degree for College Teachers. *Journal of Higher Education* 31:282–84, May 1960. (*Author:* Dean of the Graduate School, Ohio State University.)

A continuation of the author's previous article, "What Degree for College Teachers?" (No. 633). Proposes a two-year master of philosophy degree, "to be awarded for the amount of graduate work now required of a student for admission to candidacy for the Ph.D., but with several important additional requirements. . . . It would be assumed from the outset that a student holding the M. Phil. could submit a dissertation which, if accepted by a properly constituted committee of the graduate school, would entitle him to the Ph.D."

633. ———. What Degree for College Teachers? *Journal of Higher Education* 31:69–74, February 1960. (*Author:* See above.)

Discusses possible choices for a suitable degree for college teaching other than Ph.D.: i.e., a rehabilitated master's degree, a doctoral degree midway between the Ph.D. and the present master's degree, and other miscellaneous possibilities. Concludes by urging general adoption of some sound and useful program for increasing the supply of adequately prepared college teachers.

634. WELLINGTON, JEAN, *and* WELLINGTON, C. BURLEIGH. Method for Col-

lege Teachers. *School and Society* 87: 363–64, September 26, 1959. (*Authors:* (1) Lecturer; (2) Professor, both in Education, Tufts University.)

Advocate a seminar in method of college teaching for advanced doctoral students.

635. WESTERN INTERSTATE COMMISSION FOR HIGHER EDUCATION. *The Graduate Schools and the College Teacher Shortage.* Proceedings of the Conference of Western Graduate Deans, Aug. 8–10, 1957. Boulder, Colo.: The Commission, 1957. 87 p.

Verbatim report of addresses and panel and group discussions. Topics for the two panels: "Pros and Cons of the Report of the Committee of Fifteen—*The Graduate School Today and Tomorrow,*" and "What Kinds of College Teachers Will We Need?" Appended conference report recommends sponsorship by WICHE of a regional association of graduate deans and makes several other recommendations for action by Western institutions.

636. WHITE, GOODRICH C. What Are the Most Promising Procedures by Which Departments Can Pool Efforts to Improve the Preparation of College Teachers? In Association for Higher Education, *Current Issues in Higher Education, 1958.* Edited by G. Kerry Smith. Washington: National Education Association, 1958. p. 216–19. (*Author:* Chancellor, Emory University.)

Briefly describes the attempt at pooling efforts in the doctoral program of the Emory Institute of the Liberal Arts. Argues that we should seek ways to remove artificial barriers and pressures inimical to the emergence of creative scholar-teachers.

637. WILSON, O. MEREDITH. Wisdom Is Better Than Strength. *Educational Record* 41:25–28, January 1960. (*Author:* President, University of Oregon.)

Discusses three desirable changes for the 1960's in the use and preparation of college teachers, including a redesign of the Ph.D. curriculum which would permit entrance into teaching at the point of passing the final examinations before thesis.

638. WILT, NAPIER. Higher Degrees and Lower Standards. *Journal of General Education* 10:99–103, April 1957. (*Author:* Professor of English and Dean of the Division of the Humanities, University of Chicago.)

Warns against the temptation to lower standards for the M.A. and Ph.D. degrees in order to meet the demand for more teachers, and argues the merit of the traditional degree programs, particularly their merit as preparation for college or high school teaching.

639. WOODBURNE, LLOYD S. In-Service Development of Effective Teaching. In *Proceedings of the American Conference of Academic Deans, 1957.* Esther Raushenbush, Secretary and editor. Bronxville, N. Y.: Sarah Lawrence College, 1957. p. 33–41. (*Author:* Dean, College of Arts and Sciences, University of Washington.)

Discusses several ways of improving college teaching, including more effective supervision of graduate teaching assistants.

640. WOODRING, PAUL. The Profession of College Teaching. *Journal of Higher Education* 31:280–82, May 1960. (*Author:* Staff member, Fund for the Advancement of Education.)

Argues that the great majority of college teachers will not be productive scholars, and that at least half will have no intention of doing research or publishing in scholarly journals. Among the latter will be many intelligent and able teachers. Concludes that a program of graduate work should be devised which is specifically intended for this group, and that the Ph.D. should be left to those for whom it was originally intended.

See also Nos. 22, 43, 45, 86, 89, 93, 99, 167, 491, 493, 497, 518, 520, 521, 527, 531, 532, 533, 542, 544, 557, 559, 560, 561, 685, 686, 701, 702, 704, 707, 711, 732, 741, 751, 758, 836, 851, 868, 869.

IV. The Graduate Student

1. Characteristics

641. **Bendig, A. W.,** *and* **Hountras, Peter T.** Anxiety, Authoritarianism, and Student Attitude Toward Departmental Control of College Instruction. *Journal of Educational Psychology* 50: 1–7, February 1959. (*Authors:* (1) Associate Professor of Psychology; (2) Assistant Professor of Education, both of the University of Pittsburgh.)

Reports results of a test of student attitudes toward the amount of control that a college department should exercise over the classroom procedures and policies of the instructor. Graduate subjects were School of Education students. Results "directly contradict the common concept of the graduate student in education as being much more anxious and authoritarian than the undergraduate student."

642. **Boroff, David.** Graduate Limbo. *Mademoiselle* 51:110–13, 140–42, October 1960. (*Author:* Faculty member, Department of English, New York University.)

"Why do women go to graduate school? What sort of lives do they lead there? Are they academic stalwarts or, as some assert, displaced persons lost in dusty library stacks?" Attempts to answer such questions, principally on the basis of observations at the University of Michigan.

643. **Braley, Ian.** View from the Underside. *Liberal Education* 46:499–503, December 1960. (*Author:* Graduate student.)

Criticizes graduate schools for their shoddy teaching and boring required courses. Argues that they fail to retain many intelligent and talented students who see no use in giving up a handsome income for mere busy work, and that many students who remain "plod along with neither vision nor courage enough to divorce themselves from a low-grade program. . . ." Offers six recommendations for improvement.

644. **Carbine, Patricia.** In Booming Graduate Schools: More Married Students. *Look* 23:125–28, October 27, 1959. (*Author:* Assistant Managing Editor, *Look.*)

Picture-and-text portrayal of the work and family life of a married doctoral student at Cornell.

645. **Chase, Edith B.** A Study of Undergraduate Records of Graduates From Hunter College Who Later Earned Doctorates. *Journal of Experimental Education* 29:49–60, September 1960. (*Author:* Associate Professor, Biological Sciences, Hunter College.)

Compares the undergraduate records and high school averages of 294 Hunter College students who later earned doctorates with the records of a random sample of 294 other Hunter College students of the same period. In general, finds that prospective doctors had significantly better records than the average students.

646. **Grigg, Charles M.** Who Wants to Go to Graduate School, and Why? *Research Reports in Social Science*, vol. 2, No. 1. Tallahassee, Fla.: Center for Social Research, Florida State University, February 1959. 27 p. (*Author:* Associate Professor of Sociology, Florida State University, and Director, Center for Social Research.)

A study of the characteristics and plans for graduate study of a sample of senior students in four Florida universities. Reports and interrelates students' plans regarding type of graduate programs to be pursued, when and where they plan to enroll, and how they expect to finance their education. Reports students' socioeconomic backgrounds, their expressed reasons for going to graduate school, their subjective values, influences upon their decisions, and their ability-performance profiles. Studies Negro students at Florida A. and M. University separately.

647. **Gropper, George L.,** *and* **Fitzpatrick, Robert.** *Who Goes to Graduate School?* Pittsburgh, Pa.: American Institute for Research, 410 Amberson Ave., 1959. 66 p.

A study of the personal considerations and characteristics which induce qualified students to enter or forego graduate work. Based on a questionnaire survey of 3,581 graduate and professional students and undergraduate seniors, in a representative variety of fields and institutions. Bibliography, p. 62–66.

648. **Gustad, John W.** They March to a Different Drummer: Another Look at College Teachers. *Educational Record* 40:204–11, July 1959. (*Author:* Professor of Psychology and Director, University Counseling Center, University of Maryland.)

Reports the results of a questionnaire and interview survey, conducted during 1957 and 1958 with funds provided by the Southern Regional Education Board, of present college teachers, men and women who had left teaching entirely, and graduate students, in three disciplines: chemistry, English, and psychology. The research was concerned with two questions: Why do people choose to become college teachers, and why do some of these then decide to leave teaching for other positions? "In examining the histories of present and former college teachers, we found in most instances a developed preference for intellectually stimulating and essentially solitary activities."

649. **Hacker, Andrew.** The Rebelling Young Scholars. *Commentary* 30: 404–12, November 1960. (*Author:* Faculty member, Department of Government, Cornell University.)

Characterizes today's graduate students politically as "substantially to the left of the men at whose feet they have chosen to sit." Bases a discussion of their politics upon three new students' journals, particularly *Studies on the Left*, published by advanced graduate students at the University of Wisconsin. Compares their radicalism with that of British student socialists.

650. **Harmon, Lindsey R.** Field of Doctorate Specialization as a Function of Size of High-School Graduating Class. *Science* 130:1473, November 27, 1959. (*Author:* Director of Research, Office of Scientific Personnel, National Academy of Sciences-National Research Council.)

Reports relationships between field of specialization of science doctoral graduates and the size and geographic location of their high schools. Graduates in the biological sciences come with disproportionate frequency from small high schools and agricultural regions; graduates in the physical and behavioral sciences come in greater proportion from large high schools; graduates in the behavioral sciences come with disproportionate frequency from urban high schools.

651. **Miller, Perry.** Liberty and Conformity. *Graduate Journal* 2:34–41, spring 1959. (*Author:* Professor of American Literature, Harvard University.)

"By his deed of choice, whether he was fully conscious of it at the beginning, [the graduate student] has eliminated himself from the herd. He has perforce, wittingly or unwittingly, become a nonconformist. . . . He will never be at ease among the men of business."

652. **Milligan, E. E.** Dum Docent Discunt. *School and Society* 87:455–56, Nov. 7, 1959. (*Author:* Professor of French, University of Wisconsin.)

Argues that the graduate teaching assistant does extremely well; that his youth, lack of depth, and inexperience have pedagogical value.

653. **Nelson, Robert L.** Psychiatric Needs of Graduate Students. *School Review* 67:93–105, spring 1959. (*Author:* Associate Psychiatrist, Harvard University.)

Compares the 100 (out of a total of 1,490) students in the Harvard Graduate School of Arts and Sciences who were seen by the psychiatric department of the Harvard Health Services during one academic year with the remainder of the school's student body. Finds that in most respects there are no significant differences between the two groups, particularly that "no information routinely requested identifies the majority of those who will need therapy." But finds that "a complete and competent medical evaluation after a student has begun his graduate study . . . not only anticipates the psychiatric needs of a significant number of students but can also have value in helping them arrange for therapy with the least delay."

654. **Polder, Edward John.** *Self-Perceived Values: An Index to Evaluation in Graduate Education.* Doctoral dissertation (Ph.D.). Columbus: The

Ohio State University, 1958. 191 p.; Abstract in *Dissertation Abstracts* 19, No. 9:2391, March 1959.

Attempts "(1) to identify the *pattern* by which a small sample of students, admitted to candidacy for the Ph.D. degree at The Ohio State University, were able to experience qualities of personal significance from their education; (2) to identify groupings of students according to the degree to which they were able to obtain increments of value from their educational experience; and (3) to identify some of the commonalities of the university environment which tend to offer significance for students." Finds "two comprehensive dimensions, termed *extension* and *definition*," to be descriptive of the students' pattern of experience formation.

655. Small, John Joseph. *Formative Influences in the Psycho-Educational Backgrounds of Superior Graduate Students.* Doctoral dissertation (Ph.D.). Columbus: The Ohio State University, 1957. 253 p.; Abstract in *Dissertation Abstracts* 18, No. 6:2064–65, June 1958.

A study of 36 students who had been admitted to candidacy for the Ph.D. degree in diverse specializations. Attempts to answer three major questions: (1) What kinds of psycho-educational backgrounds do these people have? (2) How have they been motivated to achieve at a high level and what are their present motivations? (3) What implications may be derived from such a study for the better education and guidance of other potentially superior achievers? Lists major findings in abstract.

656. Strauss, Samuel. High School Backgrounds of Ph.D.'s. *Science Education* 44:45–51, February 1960. (*Author:* Staff member, McKinley High School, Washington, D.C.)

Reports range of IQ's shown on high school records, percentile ranks in high school graduating classes, range of high school sizes, occupations of fathers, ages at time of receiving Ph.D. degree, and time intervals from high school graduation and from receiving of bachelor's degree to receiving of Ph.D. for the 648 persons who received Ph.D.'s in sciences and humanities between 1952 and 1957 from the University of Maryland and The Johns Hopkins University. Discusses implications of findings for recruitment of doctoral students.

657. ———. Looking Backward on Future Scientists. *The Science Teacher* 24:385–87, December 1957. (*Author:* See above.)

Discusses findings of a study of the high school backgrounds of 149 scientists who had earned the Ph.D. degree. Reports that they "had been good, but not always the exceptional students in high school." On the basis of an intensive study of the lives of these scientists, makes some generalizations about their characteristics (happy, normal, but nonconformist people) and motivations ("drive," often due to early frustrations, and a personal interest taken in them by a high school or college teacher).

658. ——— *and* Brechbill, Henry. Traits of Scientists. *Science Education* 43:35–41, February 1959. (*Authors:* (1) See above; (2) Assistant Dean, Retired, University of Maryland.)

Describes and reports some of the findings of an interview study of 20 biological and 30 social scientists who had been granted the Ph.D. within 2 years prior to the investigation. The interview consisted of 68 questions: the first 14 dealt with vital statistics; the second 11 dealt with the man's doctoral project; the third group, of 19 questions, dealt with the man's school history and attempted to trace the rise and development of his interest in his field; the fourth group, 12 questions, concerned his relationships with his family; the last 12 questions probed into his relations with other people.

See also Nos. 43, 54, 69, 103, 114, 196, 209, 210, 491, 508, 681, 784.

2. Examinations and Prognosis of Success

For discussions of admissions practices, see section II, 7.

659. Association of Graduate Schools. Committee on Policies in Graduate Education. Report, with discussion. *Journal of Proceedings and Addresses.* 10th Annual Conference, 1958. p. 31–49.

Reaffirms prosposal in 1957 report that the master's degree be revitalized as a degree for college teachers by giving it the quality of a stage of progress toward the Ph.D., and that the Ph.D. program be redesigned as a 3-year preparation for a career of scholarship. Proposes, further, the establishment of a Graduate Entrance Examination Board to administer essay examinations to graduate school applicants in English composition, one or more foreign languages, and the subject of proposed specialization, in order to improve selection and hence preparation of applicants. An outline of a suggested set of examinations is appended.

660. ———. COMMITTEE ON TESTING. Report, with discussion. In *Journal of Proceedings and Addresses.* Eighth Annual Conference, 1956. p. 66–71.

Summarizes discussion of the Graduate Record Examinations at a meeting between the committee and representatives of the Educational Testing Service. Presents information "on the current status of the program, some of the problems relating to the development of additional tests in the Graduate Record Examination, some problems relating to the validity and use of the test, and other miscellaneous problems."

661. ———. ———. Report, with discussion. In *Journal of Proceedings and Addresses.* Ninth Annual Conference, 1957. p. 28–32.

Discussion of the Graduate Record Examination. Reports on the possibility of developing further tests, on the problem of providing more useful information concerning interpretation and use of test results, and on arrangements for an empirical study of the relation between GRE scores and success in graduate work. Discussion centers upon the use of the GRE in testing foreign applicants.

662. ———. ———. Report, with discussion. In *Journal of Proceedings and Addresses.* 11th Annual Conference, 1959. p. 27–35.

Reports outcome of discussions with Educational Testing Service concerning possibility of substituting essay-type examinations in writing ability and particular academic fields for the Graduate Record Examinations, as recommented in 1958 by the Committee on Pollicies in Graduate Education (*see* No. 659). Proposes in detail an experimental study of the comparative effectiveness of objective and essay tests in predicting success in graduate study. An alternative plan for improving selection of graduate students by relating graduate performance to undergraduate origins is suggested in the discussion.

663. BOWLES, FRANK H., *and* HOLLOWAY, CHARLES M. The Coming Age of College. *American Association of University Professors Bulletin* 46:271–76, September 1960. (*Authors:* (1) President; (2) Director of Information Services; both of the College Entrance Examination Board.)

After discussing articulation between high school and college and developments in college admissions and admissions testing, concludes with a brief discussion of selection and admission practices in professional and graduate schools. Questions "whether existing tests at this level come even close to meeting the real needs."

664. DOUGLASS, PAUL F. *Teaching for Self-Education.* New York: Harper and Brothers, 1960. 153 p. (*Author:* Professor of Political Science, Rollins College.)

A biography of William S. Learned, staff officer of the Carnegie Foundation for the Advancement of Teaching and founder and first director of the Graduate Record Examination.

665. FLORIDA STATE UNIVERSITY. OFFICE OF INSTITUTIONAL RESEARCH AND SERVICE. *Relationships Between Graduate Record Examination-Aptitude Test Scores and Academic Achievement in the Graduate School of the Florida State University.* Tallahassee: The University, 1958. 68 p.

A study of the correlation between the GRE-AT scores of 314 graduate students entering Florida State University during 1953–54 and their grade point averages through the 1956–57 academic year. Also studies correlation between graduate and undergraduate grade point averages of those students who had done a substantial amount of undergraduate work at Florida State. Correlations are studied in terms of 13 major departments of study or department groupings.

666. HARMON, LINDSEY R. The Development of a Criterion of Scientific Competence. In *The Second (1957) University of Utah Research Conference on the Identification of Creative Scientific Talent.* Calvin W. Taylor, principal investigator. Salt Lake City: University of Utah, 1958. p. 82–97. (*Author:* Director of Research, Office of Scientific Personnel, National Academy of Sciences–National Research Council.)

Compares achievements by 1955 of the candidates in 1949 for Atomic Energy Commission fellowships in physical and biological sciences with items of predictive information on the basis of which awards were made (i.e., aptitude and achievement tests, undergraduate grade-point averages, confidential and conference reports). Finds little correlation between high achievement and predictors. Also finds no significant correlation between high achievement and success or failure of candidate to win AEC fellowship in 1949.

667. HARVEY, PHILIP R. *The Use of the Graduate Record Examinations by Colleges and Universities.* Princeton, N. J.: Educational Testing Service, 1957. 36 p.

"A report of the results of an inquiry into uses and practices in 377 institutions participating in the GRE Institutional Testing Program, 1955-1956." See especially p. 21-29: "Uses Reported at the Graduate Level." Uses reported are grouped into four categories: Validation of Graduate Status, Admission to Candidacy for Degree, Evaluation and Guidance, and Studies to Establish Admissions Standards.

668. HOUNTRAS, PETER T. The Use of the Miller Analogies Test in Predicting Graduate Student Achievement. *College and University* 32:65–70, fall 1956. (*Author:* Instructor in Educational Psychology, University of Michigan.)

Reports significant differences in mean MAT scores between probationary and nonprobationary foreign students at the University of Michigan. Tabulates differences by area of origin and discipline. Two major conclusions: "First, the Miller Analogies Test, in view of its high validity and reliability, and ease of administration, is the best instrument available for predicting scholastic aptitude for graduate study. Second, Miller's test shows considerable promise in selecting those applicants from abroad who can succeed in graduate school."

669. HUGHES, EDWIN MCCULLOC. *Prediction of Students' Success at the Doctoral Level.* Doctoral dissertation. Denver, Colo.: Denver University, 1957.

Not examined. Abstract not in *Dissertation Abstracts.*

670. LANNHOLM, GERALD V., *and* SCHRADER, WILLIAM B. *Predicting Graduate School Success.* Princeton, N. J.: Educational Testing Service, 1951. 50 p. (*Authors:* Both staff members, Educational Testing Service.)

Summarizes all major studies made during the period 1937-1951 on the predictive value of the Graduate Record Examination. Information is organized around the following topics: (1) Development and nature of the examinations; (2) predictive effectiveness of the profile and advanced tests; and (3) detailed statistical findings by subject-matter fields.

671. OSTLUND, LEONARD A. College Transcripts and Standardized Tests as Criteria for Graduate Placement. *School and Society* 86:41–43, Jan. 18, 1958. (*Author:* Professor of Psychology, Kent State University.)

Compares scores achieved in a battery of standard subject-matter tests with quantity of transcript credit hours for 45 high school science and mathematics teachers entering Oklahoma State University for a year of graduate study in a National Science Foundation Academic Year Institute. Finds high correlation between test scores and credit hours.

672. ROBINSON, DONALD W. A Comparison of Two Batteries of Tests as Predictors of First Year Achievement in the Graduate School of Bradley University. In National Council on Measurements Used in Education, *Fifteenth Yearbook, 1958.* Edited by Edith M. Huddleston. New York: The Council, 1958. p. 118–27. (*Author:* Dean of Students, Indiana Technical College.)

"This was a study to evaluate the relative efficiency of the undergraduate over-all grade point average . . . and two batteries of tests, the Bradley University Graduate Examination . . . and the Graduate Record Examination . . . . as predictors of achievement in the graduate colleges of Bradley University. A secondary purpose of this study was to determine the relative merits of differential predictions as opposed to predictions based on an abstract general population."

673. SCHWARTZ, MILTON M., *and* CLARK, F. EUGENE. Prediction of Success in Graduate School at Rutgers University. *Journal of Educational Research* 53:109–11, November 1959. (*Authors:* (1) Associate Professor of Psychology, Rutgers University; (2) not identified.)

Report reliability of Miller Analogies Test scores, Doppelt Mathematical Reasoning Test scores, and undergraduate grade averages in predicting academic success of part-time evening students in a master's degree program in applied and mechanical statistics. Find none of the predictors very reliable and suspect the lapse of time since leaving college to be the reason for this. Believe such students' success to be governed more by motivation than by the factors tested.

674. Williams, Oliver Hoyt. *Criteria for Admission to the Graduate School of the University of Texas in Relation to the Aptitude Test of the Graduate Record Examinations.* Doctoral dissertation (Ph.D.). Austin: University of Texas, 1959. 253 p.; Abstract in *Dissertation Abstracts* 20, No. 7:2685–86, January 1960.

Primary purpose: "to evaluate the Aptitude Test of the Graduate Record Examinations as an admission requirement and as an aid in selecting and counseling students of the Graduate School at the University of Texas." Secondary purpose: "the evaluation of other admission requirements by the statistical analysis of the data submitted by applicants to the Graduate School in keeping with its regulations."

675. Zwilling, Virginia T. The Prediction of the Index at Graduation from the Grades in Seven Required Courses. *Journal of Educational Research* 51:505-12, March 1958. (*Author:* Instructor, Hunter College, New York City.)

As an aid to early determination of college students' chances of success in graduate work, investigates the relationship between the academic average attained by members of a graduating class at Hunter College and their grades in seven required first courses.

See also Nos. 65, 124, 562, 564, 801, 809.

3. Recruitment for Graduate Study

676. Beichner, Paul E. Selection of Undergraduates for Academic Careers in Colleges and Universities. *National Catholic Education Association Bulletin* 57:189–92, August 1960. (*Author:* Dean of the Graduate School, University of Notre Dame.)

Lists the essential qualities of a good college teacher and discusses the process of identifying and recruiting prospective graduate students.

677. Blank, David M., *and* Stigler, George J. *The Demand and Supply of Scientific Personnel.* New York: National Bureau of Economic Research, 1957. 200 p. (*Authors:* (1) Not identified; (2) Research Staff member, National Bureau of Economic Research.)

A study of methods used to explain movements in the supply and demand for scientific personnel, practicularly as applied to the situation in the technological professions in the United States prior to 1955.

678. Clark, Edward F. Undergraduate Preparation for Graduate Study and Intellectual Leadership. *National Catholic Education Association Bulletin* 55:141–43, August 1958. (*Author:* Academic Vice President, Fordham University.)

Argues that "preparation of our students for graduate study and intellectual leadership itself requires a greater educational leadership and personal conviction and commitment to this preparation than is by and large presently had. It is the dean who must, on the operational level, supply it to his faculty and with his faculty to his students."

679. Coombs, Philip H. How Will Institutions of Higher Education Secure and Maintain an Adequate Supply of Qualified Teachers? In Association for Higher Education, *Current Issues in Higher Education, 1957.* Edited by G. Kerry Smith, Washington: National Education Association, 1957. p. 170–74. (*Author:* Secretary, The Fund for the Advancement of Education.)

Urges greater efforts at recruitment on the part of college faculties, the invention of "a way to prepare first-class college teachers which will be very much better than the present M.A. yet less time-consuming and more to the point than the present Ph.D.," and more effective utilization of teachers through fewer and better courses, more independent learning, the use of student assistants, and the use of television and films.

680. Feldman, Arnold S., *and* Knorr, Klaus E. *American Capability in Basic Science and Technological In-*

vention. Center of International Studies Research Monograph No. 7. Princeton, N. J.: The Center, Princeton University, 1960. 13 p. (*Authors:* (1) Research Associate; (2) Associate Director, both of the Center of International Studies, Princeton University.)

A discussion of the future capability of the United States in basic science and technological invention which covers three points: (1) the manipulability of several conditions upon which the recruitment of scientists depends, (2) the narrowness with which the problem is viewed, and (3) "the need for more empirical research on the conditions of our scientific capability so that policy can in time proceed on a more informed basis."

681. Holland, John L. Undergraduate Origins of American Scientists. *Science* 126:433–37, September 6, 1957. (*Author:* Director of Research, National Merit Scholarship Corporation.)

A study of the college choices, motivations, and family backgrounds of a large sample of National Merit Scholars and Certificate of Merit students, the purpose of which is to examine the hypothesis that certain colleges and universities are more productive of scientists and scholars than others. Concludes that differential student populations are a more probable explanation of college differences in productivity than the special qualities or influences of individual institutions.

682. King, Ronold W. P. From Schoolroom to Research Laboratory: A Problem in Education. *American Association of University Professors Bulletin* 43:306–18, June 1957. (*Author:* Professor of Applied Physics, Division of Engineering and Applied Physics, Harvard University.)

Traces the educational growth of the research scientist, pointing out pitfalls along the way and suggesting remedies for them. Discusses the values and rewards of graduate work, protesting the neglect of teaching on the part of graduate science faculties. Believes that this neglect undermines the function of the university, lessens respect for teaching as a career, and ultimately makes science into "a modern cult for specialists and technicians, not an inspiration that leads to a better future for all."

683. Knapp, Robert H., *and* Goodrich, Hubert B. *Origins of American Scientists.* Chicago: University of Chicago Press, 1952. xiv, 450 p. (*Authors:* Faculty members, Wesleyan University, Connecticut.)

Reports results of a study of undergraduate educational backgrounds of more than 18,000 American scientists. Assesses the relative contributions of almost 500 colleges and universities.

684. ——— *and* Greenbaum, Joseph J. *The Younger American Scholar: His Collegiate Origins.* Chicago: University of Chicago Press, 1953. 122p. (*Authors:* (1) Associate Professor of Psychology; (2) Assistant Professor of Psychology; both of Wesleyan University.)

A statistical study, financed by the Fund for the Advancement of Education, "intended as a straight-forward and simple report on the undergraduate origins of younger American scholars who have won academic distinction in graduate schools since 1946." Based on detailed analysis of some 7,000 individuals, winners of fellowships or holders of Ph.D.'s from 25 leading graduate schools—graduates of 582 colleges.

685. Knoll, Robert E. Whence the New Professors? *College English* 20:77–80, November 1958; Replies. Frank H. Thompson, Jr. 20:416–17, May 1959; Margaret E. Ashida and Daniel W. Bernd. 21:49, October 1959. (*Author:* Associate Professor of English, University of Nebraska.)

Argues that "if a student doesn't catch fire in beginning courses, he is not likely to take our advanced courses; if he does not take our advanced courses, we never have a chance to seduce him into graduate school; if he doesn't go to graduate school, his chances of teaching in a college are remote." Hence, freshman and sophomore courses should be taught by a faculty's most distinguished scholars, a practice which would also bring about a new attitude of respect for teaching at this level. Thompson replies that reform of college teaching cannot be expected from products of the Ph.D. system, but must be achieved by way of an M.A. given new significance as preparation for teaching. Ashida and Bernd defend the virtues of graduate teaching assistants and other teachers of freshmen and sophomores.

686. Lumiansky, Robert M. A Plan for Identifying and Recruiting Outstanding Students for College Teaching. In David A. Lockmiller, ed.,

Southern University Conference Proceedings, 1958. Chattanooga, Tenn.: The Conference, University of Chattanooga, 1958. p. 21–25. (*Author:* Graduate Dean, Tulane University.)

Describes a plan in use at Tulane for several years for identifying promising undergraduate students, attracting them into graduate work, helping them find fellowship assistance for the first year, interesting them in and preparing them for college teaching, and arranging financial support for the years of graduate study beyond the first.

687. McALLASTER, ELVA. Counseling Toward College Teaching. *Association of American Colleges Bulletin* 44:586–90, December 1958. (*Author:* Professor of English, Greenville College, Ill.)

Greenville College has a remarkably large number of college professors among its alumni. Responses by these professors to a recent inquiry "point strongly to the fact that individual counseling can direct persons toward college teaching who might not otherwise have considered it." Quotes many of the responses.

688. McGLYNN, JAMES V. Preparation of Undergraduates for Academic Careers. *National Catholic Education Association Bulletin* 57:198–200, August 1960. (*Author:* Director, Department of Philosophy, University of Detroit.)

Discusses three requirements for an undergraduate program intending to prepare students for graduate study: (1) Aim at development of understanding; (2) create an atmosphere of academic dedication; (3) provide the necessary tools for graduate work.

689. MATHEWS, PAUL L. Fellowships, Scholarships, and Other Aids Toward Academic Careers. *National Catholic Education Association Bulletin* 57:201–03, August 1960. (*Author:* Executive Secretary, Committee on Extra-Mural Fellowships and Scholarships, St. Louis University.)

Describes the work of the Committee on Extra-Mural Fellowships and Scholarships, St. Louis University, in aiding undergraduates to apply for and win suitable awards for graduate study. Attributes the committee's success, in part, to the coincidence of its Executive Secretary's being an Assistant Dean of the Graduate School and hence in receipt of most fellowship information.

690. NATIONAL MANPOWER COUNCIL. *Education and Manpower.* Edited by Henry David. New York: Columbia University Press, 1960. 326 p.

In four parts. Part four, p. 227–300, deals with higher education. Chapter 11, The Potential for Higher Education, discusses the premise that there is a large hidden reserve of potential ability, at present unidentified, which, under more favorable developmental conditions could be drawn upon to expand the intellectual resources of the Nation; chapter 12, Factors Influencing Education for Scientific and Professional Occupations, points out the factors which determine the flow of students into institutions of higher education; chapter 13, Post-High School Education and Training of Women, presents the important characteristics of post-secondary school formal education and training for women; and chapter 14, Higher Education and the American Economy, concerns some of the interrelationships between economic affairs and higher education.

691. REGAN, RICHARD. Scholarships for Graduate Scholars. *National Catholic Education Association Bulletin* 56:152–56, August 1959. (*Author:* Secretary, Graduate Scholarship Committee, St. Peter's College, Jersey City, N. J.)

Describes the operation and great success of the St. Peter's Graduate Scholarship Committee, established in 1952, in inducing and assisting students and alumni to attain financial assistance for graduate and professional studies.

692. ROSENHAUPT, HANS. Identifying College Students of Great Promise. *Journal of Higher Education* 30:395–98, October 1959. (*Author:* Director, Woodrow Wilson National Fellowship Foundation.)

Describes the Special Fellowship Program at the University of Pittsburgh, in which the top 2 or 3 percent of the undergraduates are identified by faculty nomination as being especially eligible for future national or institutional graduate fellowship assistance. These, if they choose to participate in the program, then receive special attention and encouragement during the remainder of their undergraduate careers. A high correlation exists between the judgments made in the program and those of the Woodrow Wilson National Fellowship selection committee. (*See also* No. 727.)

693. SHEEAN, SISTER HELEN. The Catholic College and the Ph.D. *Cath-*

olic Educational Review 55:258–61, April 1957. (*Author:* Librarian, Trinity College, Washington, D. C.)

Studies the relative productivity of Catholic colleges, particularly Catholic women's colleges, of graduates who went on to receive Ph.D. degrees between 1936 and 1950.

694. Small Colleges as Scholarship Winners. *School and Society* 88:319, 332, Sept. 24, 1960.

Reports that one quarter of the year's Woodrow Wilson National Fellowship winners graduated from colleges with enrollments of 1,200 or less. Lists the colleges graduating the largest numbers of Woodrow Wilson Fellowship winners.

695. Super, Donald E., *and* Bachrach, Paul B. *Scientific Careers and Vocational Development Theory: A Review, a Critique, and Some Recommendations.* New York: Bureau of Publications, Teachers College, Columbia University, 1957. 135 p. (*Authors:* Both staff members of the Horace Mann-Lincoln Institute of School Experimentation, Teachers College.)

Summarizes studies of the characteristics of natural scientists, mathematicians, and engineers, and their identification, selection, and encouragement. Evaluates the methods and outcomes of these studies in the light of current vocational development theory. Bibliography: 229 titles.

696. Thistlethwaite, Donald L. College Environments and the Development of Talent: Characteristics of Colleges Are Related to the Percentage of Graduates Who Attain the Ph.D. *Science* 130:71–76, July 10, 1959. (*Author:* Associate Director of Research, National Merit Scholarship Corporation, and Lecturer in Psychology, Northwestern University.)

Compares the effectiveness of undergraduate colleges *having equally talented student bodies* in stimulating their students to go on to earn the Ph.D. Finds separate productivity patterns for the natural sciences and the arts and social sciences. Rates institutional productivity by type of institution, geographical location, religious affiliation, and miscellaneous characteristics. Also compares faculty behavior, as reported by student informants, at relatively productive institutions with faculty behavior at relatively unproductive institutions, and finds some significant differences which "argue for the importance of faculty behaviors in stimulating or inhibiting intellectual achievement."

697. ———. College Press and Student Achievement. *Journal of Educational Psychology* 50:183–91, October, 1959. (*Author:* See above.)

"To identify student cultures and faculty characteristics which motivate students to seek the doctorate, student ratings of colleges varying in productivity [but having equally talented student bodies] were compared." Finds remarkably high correlations between some faculty and student-culture influences and pressures and the productivity rate of a college.

698. Trow, Martin A. Reflections on the Recruitment to College Teaching. In John W. Gustad, ed., *Faculty Supply, Demand, and Recruitment.* Proceedings of a Regional Conference Sponsored by the New England Board of Higher Education, Nov. 5–7, 1959. Winchester, Mass.: The Board, 1959. p. 51–73. (*Author:* With the Center for the Study of Higher Education, University of California, Berkeley.)

Examines the problem of recruitment to college teaching from the perspective of broad trends in social mobility and from that of the changing patterns in the sociological complexion of higher education. Asks, "first, what kinds of people are drawn to college teaching: where have they been—what kinds of life experience have they had before entering college? Second, what kinds of colleges do they go to, and what happens to them while they are in college?" Warns that "the increases in college enrollments ahead will be made up to a great extent of students with a vocational or career orientation. We cannot assume that they will resemble the students who have filled the colleges in the past, or will supply a proportionate number of new teachers."

699. Zimmerman, Joseph F. Overcoming the Staff Shortage. *Liberal Education* 46:245–53, May 1960. (*Author:* Associate Professor, Department of Economics, Government and Business, Worcester Polytechnic Institute.)

"This article is intended to supply some facts which will help make a faculty recruitment program more effective. To gather facts, 47 faculty members at Worcester Polytechnic Institute were surveyed recently with respect to when and why they decided to enter the college teaching profession, what they presently consider to be the advantages and disadvantages of the profession, and what can be done to make the profession more attractive."

See also Nos. 26, 43, 140, 167, 194, 512, 580, 643, 646, 647, 656, 675, 700, 726, 779, 782, 784.

4. Supply and Demand

a. College Teachers

700. ADAMS, ARTHUR S. Today and Tomorrow in Higher Education. In University of Michigan, *Addresses Given at the Annual Conference on Higher Education in Michigan, 1958.* Ann Arbor: The University, 1959. p. 7–18. (*Author:* President, American Council on Education.)

Discusses three current issues in higher education: (1) The need for more well qualified teachers and how to get them; (2) the need for better articulation between high school and college and college and graduate school; (3) the need for unity between privately supported and publicly supported institutions.

701. AMERICAN COUNCIL ON EDUCATION. The Council at Work: Summary Report of Survey on Interest and Activity Relating to College Teaching. *Educational Record* 38:166–75, April 1957.

Reports results of canvass of organization members of the Council to determine their current activities and plans in the field of college teaching. Gives accounts of the many and various activities reported. Four general categories: (1) Recruitment, (2) retention of existing faculty, (3) more efficient use of existing resources, (4) preparing college teachers and helping teachers on the job.

702. ———. COMMITTEE ON COLLEGE TEACHING. O. Meredith Wilson, chairman. *College Teaching as a Career.* Washington: The Council, 1958. 28 p.

The Committee "has prepared this pamphlet to help give an impression of the pleasures and satisfactions to be found in a career in college teaching." Contains chapters on the conditions of and preparation for college teaching, and the following four short essays: A Personal Message to College Students, by Fred M. Hechinger; Teacher and Student in the Search for Truth, by Mark Van Doren; Discoveries Through Research, by Reuben G. Gustavson; and Life in a Company of Scholars, by Thomas Vernor Smith.

703. Are New College Teachers Prepared? *National Education Association Research Bulletin* 37:87–92, October 1959.

Summarizes findings of National Education Association survey, *Teacher Supply and Demand in Universities, Colleges, and Junior Colleges, 1957–58 and 1958–59* (*see* No. 754). Reports average level of preparation of new college teachers and variation among fields, level of preparation of new junior college teachers, and percentage of Ph.D. graduates entering or remaining in college teaching.

704. BEICHNER, PAUL E. Preparation of College Teachers. *National Catholic Education Association Bulletin* 54:142–44, August 1957. (*Author:* Dean, Graduate School, University of Notre Dame.)

Discusses the importance of the influence of undergraduate education and undergraduate teaching and counseling in recruiting students for college teaching. Also discusses the relationship between graduate work and the desires of colleges in hiring new teachers.

705. BERNARD, LLOYD D. Placement: Methods Used by Individuals in Finding Jobs; Methods Employed by Colleges in Securing Teachers. In Association for Higher Education, *Current Issues in Higher Education, 1956.* Edited by G. Kerry Smith. Washington: National Education Association, 1956. p. 138–44. (*Author:* Manager, Bureau of School and College Placement, University of California.)

Lists means by which candidates locate positions and procedures by which colleges seek teachers. Offers lists of suggestions for candidates, employers, and training institutions to improve the placement process. Describes the work of a committee of the University of California and the State colleges in developing a cooperative approach to the problems of preparation and placement.

706. BLANDING, SARAH G. How Can Colleges Attract and Keep First-Rate Professors? *American Association of University Women Journal* 51:146–48,

March 1958. (*Author:* President, Vassar College.)

Outlines job conditions which colleges must create in order to attract first-rate faculty members.

707. BLEGEN, THEODORE C. How Can Graduate Schools Increase the Supply of College Teachers? *Journal of Higher Education* 30:127–33, March 1959. (*Author:* Dean of the Graduate School, University of Minnesota.)

Commends several recent efforts toward the early identification and recruitment of college teachers. Goes on to recommend several specific improvements in the doctoral program to make it more effective in increasing the supply of college teachers. Also recommends a new 2-year master's degree for college teacher preparation.

708. BRUNNER, KEN A., *and* LINDQUIST, CLARENCE B. Recent Faculty and Instructional Practices in Junior Colleges. *Junior College Journal* 30: 327–39, February 1960. (*Authors:* (1) Specialist for Associate Degree and Related Programs; (2) Specialist for Natural Sciences and Mathematics; both of Division of Higher Education, U.S. Office of Education.)

Highlights the findings of Lindquist's *College and University Faculties: Recent Personnel and Instructional Practices* (*see* No. 739) as they relate to junior colleges. Provides information that is more detailed concerning junior colleges than is given in Lindquist's study, and makes comparisons between junior colleges and all other colleges and universities.

709. BUNNELL, KEVIN P. Recruiting College Faculty Members: A Short-Range View of the Problem. *Educational Record* 41:138–42, April 1960. (*Author:* Research and Administrative Associate, New England Board of Higher Education.)

Discusses the responses of 23 deans and college presidents throughout the country to the question, what new faculty recruitment techniques are you using at present? Describes 12 distinct methods other than the three traditional ones of attending professional meetings, contacting college placement offices, and writing to graduate deans or professors. Finds no indication of ". . . better organized, more imaginative programs of faculty recruitment."

710. CARMICHAEL, OLIVER C. A Call to Action. *Journal of the American Association of University Women* 53: 31–34, October 1959. (*Author:* Consultant to the Fund for the Advancement of Education.)

Reviews the college teacher shortage, sets forth a six-point program for making up the shortage, and recommends three concrete means by which lay groups such as the American Association of University Women can help recruit bright students for college teaching.

711. CARNEGIE FOUNDATION FOR THE ADVANCEMENT OF TEACHING. The Education of College Teachers. In *53d Annual Report, 1957–58.* New York: The Foundation, 1958. p. 11–26; Separate reprint. 1958. 18 p.

Summary of a wide-ranging discussion by the trustees of the Foundation concerning the recruitment and preparation of college teachers and the purposes and practices of graduate education. Recommends eight general measures for meeting the needs for college teachers. A first-rate analysis of the college teacher problem.

712. COLLERY, ARNOLD. What the More Promising Beginning College Teacher Costs. *American Association of University Professors Bulletin* 45: 223–26, June 1959. (*Author*: Assistant Professor of Economics, Amherst College.)

Gives answers secured from six graduate schools indicating probable salaries for new instructors in each of 11 major teaching fields. For those with Ph.D., anticipated salaries vary from $4,800 to $7,500; for those without a Ph.D., from $3,600 to $5,500.

713. COOK, WALTER W., *and others. A Study of Job Motivations, Activities, and Satisfactions of Present and Prospective Women College Faculty Members: Partial Report.* Minneapolis: University of Minnesota, College of Education, 1960. 100 p. (Processed.) (*Author:* Dean, College of Education, University of Minnesota.)

A report of preliminary research done under the general direction of Ruth E. Eckert, including a review of literature concerning enrollment and employment trends and other matters related to the project, a summary of a preliminary interview study of women faculty members, a study of the findings of a 1949 survey of women holders of the University of Minnesota Ph.D., and descriptions of three tangential doctoral studies in progress. (Dr. Eckert's illness caused the project to be terminated before its completion.)

714. **DAVID, HENRY.** What Are the Basic Problems in the Preparation of College Teachers? In Association for Higher Education, *Current Issues in Higher Education, 1960*. Edited by G. Kerry Smith. Washington: National Education Association. p. 179–82. (*Author:* Dean, Graduate Faculty, New School for Social Research, and Executive Director, National Manpower Council.)

Stresses the difficulties, if not the impossibility, of resolving the problem of securing better prepared college teachers in the years ahead. Suggests, as a result, that increasing attention be given to other than scholarly qualifications of applicants, to mediocre students who are potential teachers, to the preparation of teachers who do not enter the profession directly from graduate school, and to the improvement of present teaching as a model by which students may shape their own development.

715. **DILS, EUGENE W.** What Sources and Techniques Should Be Utilized in the Recruitment of College Teachers and What Methods of Retention Should Be Employed? In Association for Higher Education, *Current Issues in Higher Education, 1958*. Edited by G. Kerry Smith. Washington: National Education Association, 1958. p. 183–90. (*Author:* Director of the Placement Service, Stanford University.)

Suggests ways of alleviating the short supply of college teachers by developing the sources of supply, ensuring retention, and improving practices and procedures of recruiting.

716. **DOBBINS, CHARLES G.**, *ed. Expanding Resources for College Teaching*. Washington: American Council on Education, 1956. 137 p. (*Author:* Staff Associate, American Council on Education.)

Verbatim report of a conference sponsored by the American Council on Education, Jan. 19–20, 1956, convening 41 representatives of colleges, universities, and educational associations. Three topics of discussion: (1) Recruiting Talent for College Teaching, with opening remarks by W. H. Cowley and J. Paul Leonard; (2) Conserving for Teaching the Talent We Do Get—New and Old, with opening remarks by O. Meredith Wilson and Jacques Barzun; (3) Making the Most of a Scarce Resource, with opening remarks by William W. Turnbull and Ralph W. Tyler.

717. **DUNNE, WILLIAM J.** Personnel Policies for Sister College Teachers. *National Catholic Education Association Bulletin* 56:131–41, August 1959. (*Author:* Associate Secretary, College and University Department, NCEA.)

Calls upon sisters colleges to encourage students to enter graduate work and college teaching, and to aim at having a high proportion of Ph.D.'s and prospective Ph.D.'s among their faculties.

718. **ECKERT, RUTH E.** Faculty Views on the Recruitment of College Teachers. *Journal of Higher Education* 31:244–51, May 1960. (*Author:* Professor of Higher Education, University of Minnesota.)

Lists and discusses recommendations for recruiting and retaining college teachers gathered in a questionnaire and interview study of faculty members in Minnesota's 32 colleges.

719. ———. Recruiting College Faculty: Report on the Minnesota Study. In Association for Higher Education, *Current Issues in Higher Education*, 1958. Edited by G. Kerry Smith. Washington: National Education Association, 1958. p. 66–70. (*Author:* See above.)

Report of a sampling study of approximately 25 percent of all full-time faculty members in Minnesota's 32 private and public colleges and the University of Minnesota. Object of the study: to find out what motivates faculty people to enter and to remain in college teaching. Discusses eight of the findings and their implications. (*See also* No. 718.)

720. ——— *and* **STECKLEIN, JOHN E.** Academic Woman. *Liberal Education* 45:390–97, October 1959. (*Authors:* (1) See above; (2) Director, Bureau of Institutional Research, both of the University of Minnesota.)

Report findings of a questionnaire and interview study of 197 women faculty members in Minnesota's 32 public and private colleges. Discuss their backgrounds, when and why they chose college teaching, their preparation and current positions, their satisfaction with their careers, their suggestions for recruitment of college teachers, and the implications of these findings for the recruitment of women faculty members.

721. ——— *and* ———. Why Teach in College? *National Education Association Journal* 47:120, February 1958. (*Authors:* See above.)

Report results of their study of Minnesota faculty members regarding time of career decision (usually not until after receiving bachelor's degree), motivation, and suggestions for further recruitment.

722. ———, ———, *and* Sagen, H. Bradley. College Faculty Members View Their Jobs. *American Association of University Professors Bulletin* 45:513–28, December 1959. (*Authors:* (1) See above; (2) see above; (3) Research Fellow in Higher Education, all of the University of Minnesota.)

Report findings of their questionnaire and interview study of Minnesota faculty members (*see* No. 762). Two sections: (1) Motivations for Becoming a College Teacher, and (2) Appraisals of This Career Choice. The first includes discussions of undergraduate conceptions of college teaching, time of decision-making, reasons for choosing college teaching, and implications: the second discusses satisfactions of college teachers, career dissatisfactions, and implications.

723. Eells, Walter C. Highest Earned Degrees of Faculty Members in Institutions of Higher Education in the United States, 1954–55. *College and University* 34:5–38, Fall 1958. (*Author:* Retired Professor of Education.)

Presents information about highest earned degrees for almost 172,000 faculty members in more than 1,800 institutions of higher education. Classifies institutions by accreditation status, public or private control, type (i.e., universities, technical schools, theological schools, professional schools, liberal arts colleges, teachers colleges, junior colleges), size of faculty, and geographical location. Also presents information for members of the Association of American Universities, women's colleges, and Negro institutions. Compares present conditions with those existing 16 years earlier.

724. Farber, Maurice L., *and* Bousfield, Weston A. College Teaching as a Profession: A Study of Students' Opinions at the University of Connecticut. *Journal of Higher Education* 29:70–72, February 1958. (*Authors:* (1) Associate Professor of Psychology; (2) Head, Department of Psychology; both of University of Connecticut.)

A study of economic, sociological, and psychological factors affecting the attitudes of college students toward a career in college teaching. Based on a poll of 87 juniors and seniors at the University of Connecticut.

725. Fiess, Edward. College Teachers Must Come From Colleges. *College and University* 32:336–41, spring 1957. (*Author:* Lecturer in English, Queen's College.)

Reports results of a survey of graduates of Antioch College employed on college or university faculties as to where, when, and how they decided to adopt their careers. "I hold that the position of the undergraduate institution in this complex process is pivotal or focal. A young student may have decided on teaching or even on college teaching before ever setting foot on campus, but his college experiences can either encourage or discourage such a decision." Suggests five ways of encouraging the decision.

726. Folger, John K., *and* Ness, Frederic W. Successful Practices for Recruiting College Faculty. In Association for Higher Education, *Current Issues in Higher Education, 1959.* Edited by G. Kerry Smith. Washington: National Education Association, 1959. p. 76–79. (*Authors:* (1) Associate Director for Research, Southern Regional Education Board; (2) Academic Vice President, Dickinson College.)

Review of the findings and implications of research on the influences leading students to enter graduate work and college teaching.

727. Gray, William D. Identification and Recruitment of Prospective College Teachers. *School and Society* 87:459–60, November 7, 1959. (*Author:* Staff member, Woodrow Wilson National Fellowship Program.)

Describes the Special Fellowship Program at the University of Pittsburgh (*see* No. 692). Reports that the Woodrow Wilson Fellowship Foundation is now assisting other institutions in working out similar programs.

728. GRINTER, L. E. Russia Can View With Satisfaction Our Dilemma in Technical Education. *Science Education* 41:150–54, March 1957. (*Author:* Dean of the Graduate School, University of Florida.)

Deplores outward flow from the universities of scholars and best students in the fields of physical science and engineering, and calls upon universities "to use every economy and to reconsider all expenses not directly related to the central job of teaching and research," in order to provide adequate financial incentive for research scholars and graduate students to remain within the university.

729. GUSTAD, JOHN W. *The Career Decisions of College Teachers.* SREB Research Monograph Series No. 2. Atlanta, Ga.: Southern Regional Education Board, 1960. 87 p. (*Author:* Dean, College of Liberal Arts, Alfred University.)

"Concerned with obtaining answers to two principal questions: (1) Why do some individuals choose to become college teachers, and (2) Why do some of these later decide to leave teaching for other positions?" Based on questionnaire and interview study of present and former Southern college and university teachers of chemistry, English, and psychology. Chapters on life histories and motivations, job activities and values, personnel practices and conditions of work, and career goals, and plans. Information analyzed by teaching field and by present and former teachers. Extensive tabulation of responses.

730. ———, *ed. Faculty Supply, Demand, and Recruitment.* Proceedings of a Regional Conference Sponsored by the New England Board of Higher Education, Nov. 5–7, 1959. Winchester, Mass.: The Board, 1959. 128 p. (*Author:* Director, College Teacher Program, NEBHE.)

Contains three major addresses, two series of panel speeches, and a summarization by A. J. Brumbaugh. In the first panel, dealing with "The Recruitment and Retention Problems of New England Colleges and Universities," James S. Coles (President of Bowdoin College), Harold E. Hyde (President of Plymouth Teachers College, New Hampshire), Gertrude E. Noyes (Dean, Connecticut College for Women), Albert E. Waugh (Provost, University of Connecticut), and William C. White (Provost, Northeastern University) discuss in turn the problems in the kind of institution with which each [illegible] associated. In the second panel, "Recruitment Programs at the National Level," Henry E. Bent (Director of the National Defense Graduate Fellowship Program), Reginald H. Green (Former Vice President of the National Students Association), Keith R. Kelson (Program Director of the Fellowship Section, National Science Foundation), and Hans Rosenhaupt (Director of the Woodrow Wilson Fellowship Foundation) discuss the recruitment programs of their respective organizations. The three major addresses, by Ray C. Maul, Martin A. Trow, and Bernard Berelson, are annotated separately (*see* Nos. 743, 698 and 580).

731. ———, *ed. Faculty Utilization and Retention.* Proceedings of a Regional Conference Sponsored by the New England Board of Higher Education, May 5–6, 1960. Winchester, Mass.: The Board, 1960. 114 p. (*Author:* See above.)

Contains three major addresses and two series of panel speeches. In the first panel, dealing with "Faculty Retention and the Conditions of Work," Katherine Burton (Professor of English at Wheaton College) compares present conditions of faculty living and work with those of 30 years ago, John W. Gustad discusses the reasons why people leave college teaching for other kinds of positions, Harry K. Newburn (President of Montana State University) discusses the responsibilities of the administrator for faculty retention and work conditions, and Louise A. Wood (Program Director, Associated Colleges of the Midwest) reports results of a nationwide questionnaire study of faculty evaluation of their work conditions. The second panel, "Modern Learning Theory and Some New Approaches to Teaching," deals with teaching machines, language laboratories, and educational television. In an address entitled "The Wind in the Branches," Arthur S. Adams (President, American Council on Education) discusses factors making for effective utilization of faculty. A second address, by Harold W. Stoke (President of Queens College, New York), deals with the role of the president in recruitment and utilization of faculty. The third address, by Asa S. Knowles, is annotated separately (*see* No. 737).

732. HENDERSON, ALGO D. *Policies and Practices in Higher Education.* New York: Harper and Brothers, 1960.

338 p. (*Author:* Professor of Higher Education, University of Michigan.)

An 18-chapter study of problems and practices in higher education, primarily at the undergraduate level. Chapter 10, How Shall the Program Be Staffed? (p. 161–175), discusses recruitment and preparation of college teachers.

733. HETENYI, LASZLO JOSEPH. Who Will Teach the General-Education Student? *Journal of Higher Education* 29: 141–48, 176, March 1958. (*Author:* Associate Professor of Logic and Humanities, University of Florida.)

Suggests four methods to recruit, train, and retain competent teachers of general education courses.

734. HOLMSTEDT, RALEIGH W. Recruiting College Teachers. *Teachers College Journal* 30:89–91, May 1959. (*Author:* President, Indiana State Teachers College, Terre Haute.)

Points out that teachers colleges and state colleges are in a favorable position to recruit college teachers, since their students are already interested in teaching and since many of them have graduate programs adequate for the first year of doctoral study. Describes a graduate teaching fellowship program at Indiana State Teachers College, designed to recruit college teachers, which provides for half-time college teaching and prepares fellows to enter a university graduate school at the post-master's degree level.

735. IFFERT, ROBERT E. Staffing Institutions of Higher Education in the Next Decade. *Higher Education* 13:66–68, December 1956. (*Author:* Staff member, Division of Higher Education, U.S. Office of Education.)

"By 1965 approximately 100 persons will be required for every 60 now employed in the institutions of higher education in the U.S." Presents detailed tabular estimates of actual staff used from 1945 to 1953 and estimates of requirements from 1955 to 1965 for three groups each of publicly and privately controlled institutions. Estimates total staff required in 1965 as 566,000, and states six assumptions on which estimates are based.

736. KILLE, FRANK. The Supply and Recruitment of College Teachers. In *Proceedings of the American Conference of Academic Deans, 1957*. Esther Raushenbush, secretary and editor. Bronxville, N. Y.: Sarah Lawrence College, 1957. p. 5–17. (*Author:* Dean, Carleton College.)

"My thesis will be that (1) college teachers and administrators, although they are in the best possible position to do so, have failed to state the case for their vocation as well as the leaders of business, industry, and government have for theirs; (2) that an active, aggressive recruitment program is needed and is justifiable on all counts; (3) that as a part of this recruitment program, financial assistance must be made available to prospective teachers wherever needed; and (4) that such a program must be more specific than general encouragement of graduate work." Also reports progress on a national study of the baccalaureate origins of college teachers undertaken by the Commission on Teacher Education of the Association of American Colleges. (This study is scheduled for publication by the AAC in the spring of 1961.)

737. KNOWLES, ASA S. College Teachers for Today and Tomorrow. In John W. Gustad, ed., *Faculty Utilization and Retention.* Proceedings of a Regional Conference Sponsored by the New England Board of Higher Education, May 5–6, 1960. Winchester, Mass.: The Board, 1960. p. 99–109. (*Author:* President, Northeastern University, Boston.)

Summarizes five considerations which complicate the college teacher supply problem and six which alleviate the problem. Analyzes college-level work into seven categories, for most of which it is not necessary for teachers to have earned the Ph.D. Advocates the establishment of international centers for advanced study and research.

738. LATHAM, EARL. The Young Prometheus. *New Leader* 41:8–10, May 5, 1958.

Takes issue with the common feeling that young instructors are not being paid enough to make college teaching attractive. Feels they are better off than they were a few decades ago.

739. LINDQUIST, CLARENCE B. *College and University Faculties: Recent Personnel and Instructional Practices.* U.S. Office of Education Bulletin 1959, No. 27. Washington: U.S. Government Printing Office, 1959. 61 p. (*Author:* Chief for Natural Sciences and Mathe-

matics, Division of Higher Education, U.S. Office of Education.)

Report of a questionnaire survey of practices employed by the Nation's colleges and universities in coping with the shortage of instructional staff during 1954–57 and 1957–58. Analyzes, by type and size of institution, extent of usage of 21 specific practices in employment, promotion, retention, and utilization of staff. Summarizes and quotes extensively from comments and observations by respondents. Discusses particularly the use of more aggressive recruiting practices, greater encouragement and support of graduate training, and increased use of graduate assistants.

740. ———. Recent Practices Relating to Faculty in Institutions of Higher Education: Preliminary Report. *Higher Education* 15:41–47, November 1958. (*Author:* See above.)

Preliminary report of findings in author's *College and University Faculties: Recent Personnel and Instructional Practices* (No. 739).

741. ———, *ed. Staffing the Nation's Colleges and Universities.* Report of a Conference, May 20 and 21, 1957. Washington: U.S. Department of Health, Education, and Welfare, 1957. 59 p. (Processed.) (*Author:* See above.)

Verbatim and summary reports of speeches and discussion at a conference convened by the U.S. Office of Education to consider a prospectus of a proposed study of the problems of preparing and recruiting college faculty members. Speeches deal with the need for a national study; staffing problems encountered in the humanities, the natural sciences and mathematics, the social sciences, and engineering; problems of recruiting sufficient numbers of qualified teachers; the Woodrow Wilson Fellowship Program; and factors related to the need for instructional staff. Prospectus of proposed study appended.

742. LUDLOW, H. GLENN, *and* BARKER, KENNETH. College Placement: Some Facts and Observations. *North Central Association Quarterly* 33:248–51, January 1959. (*Authors:* (1) Director; (2) Assistant Director; both of the Bureau of Appointments and Occupational Information, University of Michigan.)

Report number of requests to the University of Michigan Bureau of Appointments and Occupational Information during 1957–58 for college teachers and administrative personnel, by field, the number of candidates available, and the ratio of supply to demand (less than 50 percent in four-fifths of the fields). Also report number and percentage of requests by type of institution, degrees required, salaries offered and academic rank.

743. MAUL, RAY C. College Teacher Supply and Demand: The National and Regional Pictures. In John W. Gustad, ed., *Faculty Supply, Demand, and Recruitment.* Proceedings of a Regional Conference Sponsored by the New England Board of Higher Education, Nov. 5–7, 1959. Winchester, Mass.: The Board, 1959. p. 9–24. (*Author:* Assistant Director, Research Division, National Education Association.)

Discusses the supply and level of preparation of newly inducted college teachers, what happens occupationally to the annual supply of new Ph.D.'s, and the quantitative staff needs of colleges and universities through 1969–70.

744. ———. College Teaching: Challenge, Opportunity. *Phi Delta Kappan* 38:175–80, February 1957. (*Author:* See above.)

Discusses openings likely to be available to the beginning college teacher, the numbers of qualified applicants likely to be competing for these openings, the level of preparation of these applicants, and the salaries which may be expected. Tables give present distribution of college teachers among the major fields, present distribution of master's and doctor's degrees among these fields (showing little or no relation between number of college teaching positions in a field and number of graduate students taking it), level of preparation of present college teachers, and a graphic comparison of numbers of bachelor's, master's, and doctor's degrees conferred over the period 1938–55.

745. ———. Institutional Research: Future Supply and Demand Studies. In Association for Higher Education, *Current Issues in Higher Education, 1958.* Edited by G. Kerry Smith. Washington: National Education Association, 1958. p. 54–56. (*Author:* See above.)

Reports on the objectives and progress of the two biennial NEA surveys, of college and university salaries and of faculty supply and recruitment. Gives figures demonstrating "the steady deterioration in the quality of new teachers inducted into classroom service during the past four years."

746. ———. The Outlook for College Teachers. *Teachers College Record* 59: 149–55, December 1957. (*Author:* See above.)

A discussion of the findings of the 1957 NEA study of college-teacher supply and demand (No. 753). Discusses trends in the academic qualifications and sources of new college teachers, the occupational choices of doctor's degree graduates, and the concentration of the most highly prepared new teachers in a relatively few institutions.

747. ———. A Second-Class Education for Millions? *Liberal Education* 45:559–63, December 1959. (*Author:* See above.)

Asks whether an increasing number of institutions will be forced to make sacrifices in the quality of the teachers they hire in order to obtain the desired numbers. Points out recent trends indicating that all but a few institutions are presently doing so.

748. ———. Sources of College Teachers. *American Association of Colleges for Teacher Education Yearbook, 1960*. p. 159–63. (*Author:* See above.)

Discusses various sources of supply of college teachers and the extent to which these can be relied on to meet the demand, particularly the annual classes of recipients of the doctor's degree.

749. ———. Wanted: College Teachers. *National Education Association Journal* 46:607–08, December 1957. (*Author:* See above.)

Discusses sources of new college teachers during 1955–56 and 1956–57 (fewer than one-half came directly from the graduate schools), their levels of preparation, and occupational choices of new Ph.D. graduates.

750. ———. Who Will Staff the College? *National Education Association Journal* 48:40, September 1959. (*Author:* See above.)

Discusses level of preparation of new college teachers, indicating annual percentage having doctor's degrees or less than a master's degree since 1953–54. Finds that institutions having a high percentage of doctoral graduates among their newly employed teachers tend also to employ a high percentage of new teachers with less than a master's degree. Also discusses level of preparation of new teachers and proportion of doctoral graduates entering college teaching in the major fields of study.

751. ———. Will New College Teachers Be Adequately Prepared? *Educational Record* 40:326–29, October 1959. (*Author:* See above.)

Reports the findings of two separate studies: one identifying new college and university teachers employed during the 1957–58 and 1958–59 academic years by amount of academic preparation and type of employing institution, the second seeking information about the occupations claiming doctoral graduates of 1956–57 and 1957–58. Finds that one out of four doctoral graduates were already engaged in college teaching, and one out of five entered college teaching as a new participant. Believes it necessary to develop alternatives to the Ph.D. for the preparation of college teachers.

752. MORSE, H. TAYLOR. How Will General Education Resolve Its Special Problem of Securing and Maintaining an Adequate Supply of Qualified Teachers? In Association for Higher Education, *Current Issues in Higher Education, 1957*. Edited by G. Kerry Smith. Washington: National Education Association, 1957. p. 176–81. (*Author:* Dean, The General College, University of Minnesota.)

Believes that (1) the number of general education programs is going to increase, (2) the faculty for these programs will continue in large part to be recruited or "converted" from traditional programs and departments, (3) rank, salary, and recognition must be channeled differently than they now are if top-level faculty are to be attracted to general education programs, (4) there would be no problem if general education courses could be substituted for departmental introductory courses, and (5) while general education programs are well suited to the needs of mass education, they must maintain a high level of integrity in order to attract their share of the ablest faculty members.

753. NATIONAL EDUCATION ASSOCIATION. RESEARCH DIVISION. *Teacher Supply and Demand in Colleges and Universities, 1955–56 and 1956–57*. Washington: The Association, 1957. 76 p.

Analyzes new full-time university and 4-year college teachers (i.e., those not engaged in full-time college teaching in the previous year) by level of preparation, source of recruitment, teaching field, and type of institution. Also analyzes doctoral graduates of 1954–55 and 1955–56 by occupational choice and field of preparation. Finds that the level of preparation of new college teachers is deteriorating and that only 57.3 percent of doctoral graduates entered or continued in college or university service. Discusses other sources of teacher supply. Extensive tabular analyses.

754. ———. ———. *Teacher Supply and Demand in Universities, Colleges, and Junior Colleges, 1957–58 and 1958–59.* Research Report 1959-R10. Washington: The Association, 1959. 87 p.

"Section 1 presents the findings of a biennial study in the pattern . . . followed in the report issued two years ago [*see* No. 753]. . . . Section 2 presents information for the first time concerning newly employed teachers in junior colleges in the same pattern as used in Section 1. . . . Section 3 presents the findings of the second over-all study of the occupations of doctor's degree graduates in the pattern developed two years ago. . . . Section 4 presents a field-by-field projection of future needs for teachers in institutions of higher education." Extensive tabular analyses.

755. Ness, Frederick W. *The Role of the College in the Recruitment of Teachers.* Washington: Association of American Colleges, 1958. 83 p. (*Author:* Administrative Vice President, Dickinson College, Pennsylvania.)

Results of a survey conducted by the Committee on Teacher Education of the Association of American Colleges in 1956 which reported methods used on numerous college and university campuses to stimulate interest among better students in careers in college teaching. Appendix describes in some detail programs used at Tulane University, Harvard University, Dickinson College, Rosary College, University of Pittsburgh, and by the Association of College and University Presidents of West Virginia. Bibliography: 76 titles.

756. Nosow, Sigmund. The Labor Market for Teachers of General Education. *Journal of General Education* 11:45–50, January 1958. (*Author:* Associate Professor, Department of Social Science, Michigan State University.)

"A question must be raised as to whether general education teaching positions present a unique submarket within the labor market for teachers—a market which is different from that confronting the individual seeking a teaching job in his specialized field. On the basis of available evidence this would not seem to be the case." Discusses the characteristics of teachers in general education programs and the problems of recruitment for such programs.

757. Riesman, David. The Academic Career: Notes on Recruitment and Colleagueship. *Daedalus* 88:147–69, winter 1959. (*Author:* Professor of Social Sciences, Harvard University.)

Discusses sociological pattern of recruitment into college teaching and some of the ways the pattern has changed in the last generation or so. Then describes "some of the seldom noted pitfalls and dilemmas" of graduate and undergraduate teaching ". . . as I might point them out to a prospective college teacher."

758. Ryan, Stephen P. The College Teacher. *Catholic Educational Review* 55:389–96, September 1957. (*Author:* Chairman, Department of English, Xavier University, Louisiana.)

Describes the advantages and disadvantages of college teaching as a career. Includes prolonged preparation and exploitation of graduate teaching assistants among the disadvantages.

759. Seegers, J. Conrad. Higher Education's Need for a Larger Supply of Qualified Teachers. With excerpts from the discussion following. In *The Strength to Meet Our National Need: A Report to the President's Committee on Education Beyond the High School.* Edited by Charles G. Dobbins. Washington: American Council on Education, 1956. p. 77–92. (*Author:* President, Muhlenberg College.)

One of seven addresses delivered at a conference of member organizations of the American Council on Education. Points out the inadequacy of the supply of college teachers and discusses several ways to improve recruitment and utilization. Discussion participants add remarks upon the importance of considering qualifications other than the Ph.D., the role of teachers in recruiting teachers, the role of women as college teachers, and other subjects.

760. Semans, H. H., *and* Holy, T. C. *A Study of Faculty Demand and Supply in California Higher Education,*

1957–70. Prepared for the Liaison Committee of the Regents of the University of California and the California State Board of Education. Berkeley: University of California Press, 1958. 76 p. (*Authors:* (1) Specialist in Higher Education, California State Department of Education; (2) Special Consultant in Higher Education, University of California.)

Attempts to answer the following questions: (1) How many new staff members will be needed by 1960, 1965, and 1970, in selected fields and in total? (2) What are the characteristics of new faculty appointees with respect to highest degree held, source of recruitment, rank to which appointed, and doctorate institution? (3) What is the expected national and State supply of master's and doctor's degrees by fields, and what percentage of the recipients will go into college teaching? (4) What is the demand-supply outlook in specific fields? (5) What suggestions have been made to provide adequate numbers of faculty without sacrifice of quality?

761. STAUFFER, JOHN NISSLEY. *Judgments of Liberal Arts College Teachers and Deans Regarding College Teacher Qualifications.* Doctoral dissertation (Ed.D.). University Park: Pennsylvania State University, 1956. 141 p.: Abstract in *Dissertation Abstracts* 17, No. 2:285–86, February 1957.

"The main purposes of this study were to determine the relative importance of qualifications of college teachers in the judgment of academic deans and their most promising young teachers; to find the extent of agreement between judgments by deans and teachers and between these judgments and those previously reported for presidents by Trabue; and to find what qualifications are representative of successful college teachers in the judgment of deans and teachers."

762. STECKLEIN, JOHN E., *and* ECKERT, RUTH E. *An Exploratory Study of Factors Influencing the Choice of College Teaching as a Career.* Minneapolis: University of Minnesota, Bureau of Institutional Research, 1958. 46 p., and appendices. (*Author:* (1) Director, Bureau of Institutional Research; (2) Professor of Education; both of the University of Minnesota.)

Reports information received in a questionnaire survey of selected faculty members in Minnesota's 32 private and public institutions of higher education. Discusses family, personal, and academic backgrounds, motivations, time of choosing career, and present satisfactions and dissatisfactions.

763. ——— *and* ———. *How University of Minnesota Faculty Members Became College Teachers: Their Backgrounds, Their Academic Activities, and Their Career Satisfactions and Dissatisfactions.* Minneapolis: University of Minnesota, Bureau of Institutional Research, 1958. 18 p. (*Authors:* See above.)

Supplements the authors' statewide report on Minnesota college faculty members (No. 762) by reporting information received from members of the University faculty and comparing their backgrounds, satisfactions and dissatisfactions, and other characteristics, with those of the liberal arts and state college teachers.

764. ——— *and* LATHROP, ROBERT L. *Faculty Attraction and Retention: Factors Affecting Faculty Mobility at the University of Minnesota.* Minneapolis: University of Minnesota, Bureau of Institutional Research, 1960. 130 p. (*Authors:* (1) Director; (2) Research Associate; both of the Bureau of Institutional Research.)

A study of the bases of decisions to join or remain on the University of Minnesota faculty. Four groups of individuals are studied separately, those (1) who had recently accepted an appointment to the faculty, (2) who had considered coming to Minnesota but decided against it, (3) who had recently accepted job offers elsewhere, and (4) who had recently rejected other job offers to remain at Minnesota. Each group was queried separately, by interview or questionnaire, as to the negotiations, influences, and outcomes in each kind of decision; and results are reported separately for each. Also reports changes in University policies recommended by each group, and concludes with an overview of faculty attraction and retention at the various University schools and colleges.

765. STOIKOV, VLADIMIR. Has the Quality of the College Teacher Declined? *Journal of Higher Education* 30:455–58, November 1959. (*Author:* Associated with Johns Hopkins University.)

Presents statistics showing that the percentage of instructional staff holding doctoral degrees increased between 1952 and 1956 in every category of higher educational institution, and that, generally, it increased from 42.2 to 49.6. Discusses the probable causes of this increase, and points out the fallacy of deducing a trend in the opposite direction from the single fact of the declining percentage of doctorates among new college teachers.

766. Stop, Look, and Listen. *Clearing House* 31:415–17, March 1957.

Describes an unfortunate personal experience, the result of having accepted a contract and a job without careful scrutiny of their particulars, and offers some specific advice to new college teachers.

767. Sullivan, Daniel C. The Recruitment of College Teachers. *National Catholic Education Association Bulletin* 54:145–51, August 1957. (*Author:* Professor of Education, St. John's University, Brooklyn, N.Y.)

Offers a number of suggestions for alleviating the college teacher shortage: maximum utilization of existing staff, expanding teaching fellowship programs, greater use of student aides, recruitment and employment of women, development of a college teaching degree, college and regional conferences for faculty and student discussion of college teaching, and the like.

768. Teachers for Our Colleges: Status of Supply and Demand. *National Education Association Research Bulletin* 36:13–22, February 1958.

A discussion of the occupational choices of recent recipients of the doctorate, of the sources and qualifications of new college teachers, and of women as college teachers, based on the NEA report, *Teacher Supply and Demand in Colleges and Universities, 1955–56 and 1956–57* (No. 753).

769. Waite, Richard A., Jr. *A Program for Staffing Our Colleges.* Albany, New York: The University of the State of New York, State Education Department, 1958. 16 p. (*Author:* Executive Assistant, Office of Higher Education, New York State Department of Education.)

Estimates the need for from 1,000 to 2,200 new college teachers in New York State each year for the next 16 years, and recommends that the State make 250 annual grants up to $2,500 each, good for 2 years, to State residents for enrollment in doctoral institutions having special and approved provisions for the academic training of college teachers.

770. What Attracts the New College Teacher? *School and Society* 87:323, June 20, 1959.

Reports findings of a questionnaire given to 34 beginning college teachers, all new Ph.D.'s, by the University of Michigan Bureau of Appointments and Occupational Information. Rates factors which attract new teachers to an individual college or university.

771. Yale's Teaching Fellows Program. *School and Society* 86:179, April 12, 1958.

Describes new program in which 10 Yale seniors are to be enlisted annually for a year's instructorship and graduate study at an average stipend of $3,750. Teaching fellows will spend two-thirds of their time teaching under the supervision of senior professors and one-third taking a graduate school course. The program is to be financed by the Carnegie Corporation.

See also Nos. 93, 96, 167, 172, 196, 211, 303, 330, 507, 560, 577, 531, 583, 604, 607, 608, 682, 685, 823, 830, 832, 845, 850, 851, 868, 869.

b. Other Fields and Professions

772. Armsby, Henry H. *Engineering and Scientific Manpower: Organized Efforts to Improve Its Supply and Utilization.* U.S. Office of Education Circular No. 610. Washington: U.S. Government Printing Office, 1960. 68 p. (*Author:* Chief for Engineering Education, Division of Higher Education, U.S. Office of Education.)

Gives brief descriptions of the manpower programs and services of 15 nongovernmental organizations, 11 Federal agencies, and 4 presidential committees, in the fields of engineering, science, and teaching.

773. Brown, James Douglas, *and* Harbison, Frederick. *High-Talent Manpower for Science and Industry: An Appraisal of Policy at Home and Abroad.* Research Report Ser. No. 95. Princeton, N. J.: Industrial Relations Section, Department of Economics and Sociology, Princeton University, 1957. 97 p. (*Authors:* (1) Dean, Princeton

University, (2) Director of the Industrial Relations Section, Princeton University.)

Two essays designed to examine the thesis that the creative scientist or engineer is the most universal man in the twentieth century and that his development should respond to similar measures in any part of the world. In the first essay, Considerations in the Determination of American Policy, by Brown, *see* especially the section, The Task of the College and University in the Education of 'Seed-Corn' Talent. The second essay, by Harbison, is entitled The Development of Human Resources in the Newly Industrializing Countries.

774. CONANT, JAMES B. Education in the Western World. *Atlantic Monthly* 200:73–77, November 1957. (*Author:* Ambassador to the Federal Republic of Germany.)

"I should like to approach the subject of education for the professions in the mood of the comparative educationalist. I should like to examine in particular the way the future members of the professions are recruited, selected, and educated in certain European nations and the United States."

775. ELBERS, GERALD W., *and* DUNCAN, PAUL, *eds. The Scientific Revolution: Challenge and Promise.* Washington: Pubic Affairs Press, 1959. 280 p. (*Authors:* (1) Director of Information of the President's Committee on Scientists and Engineers; (2) Administrative Assistant to Senator Lister Hill.)

Thirty-two contributors discuss the implications of the challenge of the current scientific revolution. Section 7, The Education and the Use of Superior Talent, contains the following chapters: (1) Problems of the Graduate School; (2) Financing the Graduate Student; (3) Federal Government and University Research; and (4) The Advanced-Degree Man in Industry.

776. GREENWOOD, DAVID C. *Solving the Scientist Shortage.* Washington: Public Affairs Press, 1958. 68 p. (*Author:* Coordinator for Engineering Development, Los Angeles Chamber of Commerce.)

"The annual requirement for trained engineers and scientific talent is rising at a rate which is ever gaining on the number of trained personnel coming from our universities and technical institutions. The problem now is to discover the causes of the shortage, and what can be done about it." Discusses undergraduate and graduate supply, then surveys Federal, industrial, and professional association programs designed to develop the supply and competence of scientists and engineers. Concerned principally with engineering.

777. KILLIAN, JAMES R. Augmenting Our Scientific and Engineering Manpower Resources. *School and Society* 85:213–17, June 22, 1957. (*Author:* President, Massachusetts Institute of Technology.)

Sketches reforms necessary at all levels of education in order to produce more scientists and engineers. Advocates more and stronger graduate engineering programs and a shift of emphasis from the undergraduate to the graduate level in professional engineering education. Also calls for recognition of the humanistic qualities of science and for an end to the separatism between liberal and scientific studies.

778. NATIONAL MANPOWER COUNCIL. *Womanpower.* New York: Columbia University Press, 1957. xxxiii, 371 p.

The sixth publication of the National Manpower Council, illuminating the present role of women in the working population. *See* especially chapter 7, Post-High School Education and Training, for an overview of women in graduate study. Bibliography: 243 titles.

779. NATIONAL SCIENCE FOUNDATION. *Scientific Manpower, 1959.* NSF 60–34. Washington: U.S. Government Printing Office, 1960. 38 p.

Fourth in a series of annual summaries of activities relating to supply, demand, education, and recruitment of scientists. The bulk of each of these annual reports is a publication of the papers delivered at the Scientific Manpower Conferences held during the annual (December) meetings of the American Association for the Advancement of Science, and sometimes of other selected papers. In this report, six conference papers deal with graduate programs and recruitment in the fields of engineering, the space sciences, oceanography, nuclear science, metallurgy, and chemical fuels.

780. ———. *Statistical Handbook of Science Education.* NSF 60–13. Washington: U.S. Government Printing Office, 1960. viii, 94 p.

A compilation of pertinent statistical material on the education and training of scientists and engineers in the United States. The work is divided into (1) human resources data; (2)

a variety of data that deal with the institutional aspects of training in the sciences, and (3) appendix tables.

781. ———. *A Study of Scientific and Technical Manpower.* A report prepared for the Committee on Science and Astronautics of the U.S. House of Representatives, 86th Congress. Washington: U.S. Government Printing Office, 1960. 71 p.

A description of present programs of data collection on supply, demand, education, and utilization of scientific and technical manpower, including the National Science Foundation's National Register of Scientific and Technical Personnel; and proposals for a long-range program of collecting scientific manpower information, including data on graduate enrollments, offerings, and support.

782. ——— AND THE PRESIDENT'S COMMITTEE ON SCIENTISTS AND ENGINEERS. *A Program for National Information on Scientific and Technical Personnel.* NSF 58-28. Washington: The Foundation, 1958. 63 p.

Sets forth a recommended program, composed of 15 separate projects, for providing needed information about the national supply and demand of scientific manpower. Includes recommendations for various studies of the inflow of scientists from the formal educational system.

783. NOURSE, ALAN E. *So You Want to Be a Scientist.* New York: Harper and Brothers, 1960. 182 p. (*Author:* M.D., North Bend, Washington.)

A book addressed to the high school graduate or beginning college student, describing the education and work of the scientist and sketching the general fields of science. Contains several advisory discussions of preparation for graduate study, graduate study itself, and scientific research as a career.

784. WOLFLE, DAEL. *America's Resources of Specialized Talent: A Current Appraisal and a Look Ahead.* New York: Harper and Brothers, 1954. xviii, 332 p. (*Author:* Director, Commission on Human Resources and Advanced Training, Conference Board of Associated Research Councils.)

An attempt to answer three interrelated questions: (1) What is the present supply of specialized talent, and what is it like? (2) What are the demands for specialists now, and what are they likely to be in the future? (3) What is the potential supply of specialists; and how many potential specialists are lost before completing their education, and why? Discusses trends in fields of study of college graduates and graduate students, relations between undergraduate and graduate fields of specialization, supply and demand in the specialized fields, the potential supply of college and doctoral students, the utilization of the actual and potential supply of specialists, and other related matters. Provides a wealth of relevant statistical information.

785. ———. Forecasting Surpluses and Shortages in Key Occupations. *Annals of the American Academy of Political and Social Science* 325:29-37, September 1959. (*Author:* Executive Officer, American Association for the Advancement of Science.)

Discusses the difficulties and the inadequacies of present methods of forecasting manpower surpluses and shortages.

See also Nos. 64, 196, 400, 650, 657, 658.

5. The Foreign Student

For discussions of international exchange programs and activities, see section II, 11.

786. ALATIS, JAMES E. The Department of State's Overseas Testing Program. *Institute of International Education News Bulletin* 35:25-32, April 1960. (*Author:* English Language Specialist, Bureau of International Cultural Relations, U.S. Department of State.)

Explains the services rendered by and available from the Department of State in testing the English language competencies of foreign student applicants. These include the testing of candidates for Government exchange grants, partly mandatory and partly discretionary, by means of newly developed standard tests; testing by U.S. embassies or consulates as a service to individual American institutions; and routine nonimmigrant student visa testing by visa-issuing officers.

787. AMERICAN ASSOCIATION OF COLLEGIATE REGISTRARS AND ADMISSIONS OFFICERS. *Do-It-Yourself Evaluation of*

Foreign Student Credentials. Prepared by William H. Strain. Washington: American Council on Education, 1957. 36 p.

Lists and describes reference works dealing with foreign educational systems. Discusses the process of securing needed information and documents from applicants. A section entitled "Evaluation of University Degrees and Credits" discusses the admission of foreign students to graduate study.

788. ———. *Guides to the Academic Placement of Students from Foreign Countries in United States Educational Institutions.* 4 vols. Athens, Ohio: Committee on Special Publications, AACRAO, Office of the Registrar, Ohio University, 1957–59.

A series of reports of the educational systems of foreign countries, intended to help admissions officers arrive at their own decisions on proper and equitable placement of individual students. Four volumes have appeared: *Germany* (1957, 27 p.), prepared by Reginald H. Phelps; *Canada* (1957, 48 p.), prepared by Herman A. Spindt; *The Republic of Korea* (1958, 80 p.), prepared by Clara H. Koenig; and *Thailand* (1959, 84 p.), prepared by Carl G. F. Franzen. A companion volume on the Scandanavian countries is listed below.

789. ———. *Report of Scandanavian Study-Tour: A Preliminary Study of the Educational Systems of Denmark, Finland, Iceland, Norway, and Sweden.* Prepared by Eunice Chapman. Athens, Ohio: Committee on Special Publications, AACRAO, Office of the Registrar, Ohio University, 1957. 126 p.

A description and evaluation of the school and university systems of the five Scandanavian countries, based on personal inspection by four American educators. Differs from other volumes in this series (*see* No. 788), "for it relates first-hand experiences and gives personal and sometimes localized impressions rather than an impersonal cataloguing of information."

790. ASSOCIATION OF GRADUATE SCHOOLS. COMMITTEE ON INTERNATIONAL STUDENT EXCHANGE. Report. In *Journal of Proceedings and Addresses.* Ninth Annual Conference, 1957. p. 60–69.

Summarizes current problems and activity among member institutions in screening of foreign applicants abroad, maintenance of contact with former students, housing and welfare of foreign students, coordination of Government and private programs of aid, and placement of U.S. students abroad. Reports upon the committee's activities and progress made during the year in the areas of evaluation of credentials, English language competence, and informational publications. Comments on activities of the Institute of International Education and the Commission on Education and International Affairs.

791. ———. COMMITTEE ON PROBLEMS OF FOREIGN STUDENTS. Report, with discussion. In *Journal of Proceedings and Addresses.* Eighth Annual Conference, 1956. p. 72–99.

Summarizes and quotes extensively from replies to a questionnaire survey of Association members concerning the following matters: The "double standard" for foreign students; the effect of increased graduate enrollments on admission of foreign students; screening of foreign applicants abroad; financial aid for foreign students; their command of English; exchange programs with foreign institutions; participation of the AGS in the American Council on Education's Commission on Education and International Affairs; evaluation of credentials; dissemination abroad of information concerning American higher education; publications of the Institute of International Education; sources of financial aid; concentration of foreign graduate students; and research on international study. Includes table indicating fields of interest of foreign graduate students according to area of origin for 1955–56.

792. BEALS, RALPH L., *and* HUMPHREY, NORMAN D. *No Frontier to Learning: The Mexican Student in the United States.* Minneapolis: University of Minnesota Press, 1957. 148 p. (*Authors:* (1) Chairman, Committee on Cross-Cultural Education, Social Science Research Council; (2) Professor of Sociology and Anthropology, Wayne State University.)

A cultural study of Mexican students in the United States and of former students who had returned to Mexico, based upon background information, written tests, case histories, and intensive interviews of a small number of "core" students at the University of California in Los Angeles, most of whom were graduate students. Considers the nature of Mexican culture, the origins and characteristics of Mexican students before coming to the United States, their experiences here, their reactions to these experiences and changes in their opinions and attitudes, the consequences of these changes for the returned student, and the implications of the findings for university exchange programs.

793. BENNETT, JOHN W.; PASSIN, HERBERT; *and* MCKNIGHT, ROBERT K. *In Search of Identity: The Japanese Overseas Scholar in America and Japan.* Minneapolis: University of Minnesota Press, 1958. 369 p. (*Authors:* (1) Professor of Anthropology, Ohio State University; (2) cultural anthropologist, Congress for Cultural Freedom; (3) social psychologist, Ohio State University.)

An intensive cultural-anthropological study of post-war Japanese students in the United States and of former students who had returned to Japan. Appendix C, The Overseas Student, the University Society, and American Culture: Some Observations on Guidance of the Visitor (p. 307–18), criticizes the administration of foreign student affairs on the American campus in the light of the study's findings.

794. CAJOLEAS, LOUIS PETER. The *Academic Record, Professional Development, and Return Adjustment of Doctoral Students from Other Lands: A Study of Teachers College Alumni, 1946–1955.* Doctoral dissertation (Ph.D.). New York: Columbia University, 1958. 295 p.; Abstract in *Dissertation Abstracts* 19, No. 2:250–51, August 1958.

The study focuses on the academic record, professional development, and return adjustment of 156 students from 30 countries who received the doctorate from Teachers College, Columbia University, between January 1946 and December 1955. The data were secured from the files of the Advanced School, the registrar, and the advisor to students from other lands, and from a questionnaire returned by 81 alumni.

795. CANNON, GARLAND. The Foreign Student in the United States. *American Association of University Professors Bulletin* 45:539–42, December 1959. (*Author:* Assistant Professor of Linguistics, Teachers College, Columbia University.)

A discussion of the problems of the foreign student, particularly his English language deficiency, with a plea that "our Washington agencies and our colleges and universities interested in the problem develop a concerted program" to deal with it. (*See* No. 786 for comment upon Cannon's plea.)

796. COEHLO, GEORGE V. *Changing Images of America: A Study of Indian Students' Perceptions.* Cambridge: Massachusetts Institute of Technology. Center for International Studies, 1958. xxii, 145 p.

Not examined.

797. DUBOIS, CORA. *Foreign Students and Higher Education in the United States.* Washington: American Council on Education, 1956. 221 p. (*Author:* Professor, Harvard University–Radcliffe College, and former Research Director of the Institute of International Education.)

Three parts, consisting of discussions of (1) contemporary trends in numbers and motives of student exchangees, and of the role of the Federal Government in the foreign student field; (2) some of the psychological and sociological factors that affect foreign students from the time they plan their foreign study sojourn until they return home; (3) the role of American colleges and universities in placing and counseling foreign students.

798. GEZI, KHALIL ISMAIL. *The Acculturation of Middle Eastern Arab Students in Selected American Colleges and Universities.* Doctoral dissertation (Ph.D.). Stanford, Calif.: Stanford University, 1959. 260 p.; Abstract in *Dissertation Abstracts* 20, No. 5:1641–42, November 1959.

"The present research was attempted to survey and analyze the adjustment problems of sixty-two Arab students in certain California colleges and universities, and to explore and test specifically the association between adjustment to American culture and each of the following variables: pre-arrival acculturation, pre-arrival favorability toward the United States, age, sex, academic program, marital status, type of college, duration of sojourn, national status and success in college." Points out implications of findings for administration of student exchange programs.

799. HOUNTRAS, PETER T. Factors Related to Academic Probation among Foreign Graduate Students. *School and Society* 85:311–12, Oct. 26, 1957. (*Author:* Instructor in Educational Psychology, University of Michigan.)

Examines relationship between scholastic success of foreign graduate students and their geographic areas of origin and general fields of study. Finds these two factors significantly related to incidence of academic probation.

800. ———. Problems Confronting Foreign Students. *Vocational Guidance Quarterly* 5:61–64, winter 1956–57. (*Author:* See above.)

"In this article is presented not only what has been ascertained about foreign students, but also what we need to know if we are to do a better job of (1) selecting foreign student applicants from abroad who may profit most from graduate training, (2) offering foreign students the training which will equip them to do a better job of evaluating the cultural standards and technology in their native lands, and (3) counselling."

801. ———. The Relationship Between Pre-Admission Data and Achievement of Foreign Graduate Students. *Journal of Educational Psychology* 43:157–63, March 1957. (*Author:* See above.)

Reports results of a study of the predictive relationship of six factors to the academic achievement of 587 foreign graduate students at the University of Michigan. The six factors studied were sex, age, marital status, provisional or regular admission status, degree held at admission, and admission with or without financial aid.

802. INSTITUTE OF INTERNATIONAL EDUCATION. *English Language and Orientation Programs in the United States*, New York: The Institute, 1960. 31 p.

A listing and description of academic-year and summer orientation courses for foreign students offered by U.S. colleges and universities, prepared on the basis of a survey made in October 1959. For each program, gives total number of hours per week of English language instruction and of orientation. Information and dates are for the academic year 1959–60 and the summer of 1959 or 1960, but most courses will be offered in following years.

803. ———. *Graduate Study in the United States: A Guide for Foreign Students.* Third revised edition. New York: The Institute, 1958. 10 p.

After a brief characterization of graduate study in the United States, discusses eligibility for graduate study, selection of a graduate school, expenses, financial assistance, application procedures, admission into the United States, transportation, and arrival in the United States and at the school.

804. ———. *A Guide to the Admission and Placement of Foreign Students.* Edited by Martena Tenney Sasnett. New York: The Institute, 1957. x, 177 p.

A guide which is designed to assist admissions and guidance personnel of an institution in developing effective procedures for admission and placement of students from abroad. Material is organized into the following chapters: (1) The Foreign Student and the Admitting Institution; (2) The First Steps in Creating a Foreign Student Program; (3) Assessment of a Student's Eligibility and Attendant Procedures; (4) U.S. Foreign Service Posts and Their Services to Foreign Students; (5) Arrival of the Student: Subsequent Procedures; (6) Compliance with U.S. Government Regulations; and a comprehensive 51 page appendix.

805. ———. COMMITTEE ON EDUCATIONAL INTERCHANGE POLICY. *Expanding University Enrollments and the Foreign Student: A Case for Foreign Students at U.S. Colleges and Universities.* New York: The Institute, 1957. 10 p.

"Foreign students are a vital part of the American university scene today. Although they represent less than 1.5 percent of the total enrollment at American institutions, the enrichment they bring to the campus and to the nation is far greater than their small numbers would imply."

806. MACCORMAC, KENNETH. Keeping in Touch with Returned Grantees. *Institute of International Education News Bulletin* 34:30–34, April 1959. (*Author:* Chief, Liaison and Special Activities Section, International Educational Exchange Service, Bureau of Public Affairs, Department of State.)

Describes activities of the Department of State in maintaining contact with returned grantees. Urges universities and professional associations to interest themselves in doing the same in a variety of ways, and offers assistance in obtaining current addresses of foreign alumni.

807. MORRIS, RICHARD T. *Two-Way Mirror: National Status in Foreign Students' Adjustment.* For the Social Science Research Council. Minneapolis:

University of Minnesota Press, 1960. xii, 215 p. (*Author:* Associate Professor of Sociology, University of California, Los Angeles.)

A study of the reactions of students from 65 foreign countries to their American educational experience, primarily through a classification of the various kinds of status factors which affect the foreign student. The report is based on the results of a large follow-up to a previous study-in-depth of students from several countries of contrasting cultural backgrounds. The volume was prepared for the Committee on Cross-Cultural Education of the Social Science Research Council.

808. **Nelson, Robert L.** The Psychiatric Needs of Foreign Students. *Institute of International Education News Bulletin* 33:13–17, May 1958. (*Author:* Assistant Psychiatrist, University Health Services, Harvard University.)

Reports results of a study at Harvard, ". . . made to reveal more fully the psychiatric needs of foreign students and to discover if and how they differ from the needs of domestic students." Finds, in general, no major differences between foreign and U.S. graduate students in occurrence of psychiatric problems or response to treatment.

809. **Paeratakul, C.** Differences in Performance on the Doctoral Admission Examinations at Indiana University by Thai Students, Foreign non-Thai Students, and American Students. *Indiana University School of Education Bulletin* 35:41–64, May 1959.

Not examined.

810. **Reichard, John F.** Boston's Welcome to Visitors from Abroad. *Institute of International Education News Bulletin* 35:25–30, May 1960. (*Author:* Executive Director, International Student Association of Greater Boston.)

Describes the International Student Association's "international house" in Cambridge and its services to foreign students in the Boston area. "The nearly 20 years of ISA operation have demonstrated the great value of an inter-university meeting place."

811. **Santos, Antusa Perez.** *A Study of the Problems Faced by Foreign Students at Indiana University With Implications for Action.* Doctoral dissertation (Ed.D.). Bloomington: Indiana University, 1959. 205 p.; Abstract in *Dissertation Abstracts* 20, No. 9:3580–81, March 1960.

Questionnaire and interview study of a 50 percent sample of foreign students (198 students) at Indiana University. Studies academic, financial, personal, religious, emotional, and social aspects of adjustment to college life. Also reports opinions of foreign students advisers in 13 institutions enrolling over 400 foreign students, solicited as a basis for proposing a more realistic program of student services.

812. **Scott, Franklin D.** Cultural Impact of the United States on Foreign Countries Realized Through the Graduate Training of Foreign Students in the United States. In *Proceedings of the 16th Annual Meeting of the Midwest Conference on Graduate Study and Research, 1960.* p. 29–34. (*Author:* Professor of History, Northwestern University.)

Discusses various changes wrought by U.S. graduate schools in foreign students, and the effects of these changes when the students return home.

813. **Stone, Donald C.** Some Research and Action Needs in International Educational Exchange. *Educational Record* 39:374–81, October 1958. (*Author:* Dean of the Graduate School of Public and International Affairs, University of Pittsburgh.)

"While some useful studies have been made of exchange programs, we still know very little about the conditions under which good results are achieved and about the kinds of practices to be avoided." Suggests 12 subjects worthy of college and university self-study, discusses several other "research and action areas" worthy of attention, and urges government and foundation financing of a series of projects designed to provide guide lines for exchange programs.

814. **Swaengsugdi, Thanoo.** *A Study of the Educational Programs of Thai Students in the United States under the Sponsorship of the International Cooperation Administration During the 1958–59 Academic Year.* Doctoral dissertation (Ed.D.). Detroit,

Michigan: Wayne State University, 1960. 274 p.; Abstract in *Dissertation Abstracts* 21, No. 1:112, July 1960.

A study of the attitudes toward their social experiences and educational programs of 190 Thai students, mostly graduate students, based on a questionnaire survey of opinions.

815. WALTON, BARBARA J., *and* MATT, DOROTHY ANNE. Distribution of Foreign Students at Fifteen Universities. *Institute of International Education News Bulletin* 35:15–21, February 1960. (*Authors:* (1) Assistant Secretary; (2) former staff member, both of the Committee on Educational Interchange Policy, IIE.)

An analysis of the distribution of foreign students, by country and field of study, at the 15 institutions reporting the largest numbers of foreign students in 1957–58. Also report results of a recent study of the fields of graduate and undergraduate foreign students at the University of California in Berkeley, and of the relationship between nationality and field.

See also Nos. 66, 67, 94, 96, 194, 196, 429, 432, 434, 439, 449, 450, 457, 459, 462, 469, 485, 661, 668, 859.

V. The Graduate Faculty and Faculty Scholarship and Research

For discussion of the cost and support of research, see sections II, 6, a through c. For discussions pertaining primarily to the administration and organization of university research, see section II, 10.

816. Appraising Humanistic Scholarship and Instruction. *School and Society* 87:272–73, May 23, 1959.

Reports the projected appraisal of American humanistic scholarship by the Princeton University Council of the Humanities, to be carried out over a period of 4 years under a grant from the Ford Foundation. "Their objective will be to discover trends, successes, and failures and how they came about, and to explore promising avenues of future development."

817. Barzun, Jacques. Cults of Research" and "Creativity." *Harper* 221: 69–74, October 1960; Discussion. 221 6, December 1960. (*Author:* Dean of Faculties and Provost, Columbia University.)

Argues that the great influx of public and private funds for the support of research has caused an uncritical reverence for research and a neglect and perversion of teaching. Because much of the research is inconsequential, it has been necessary to debase and appropriate the term "creative" to justify the work being done and forestall judgment of its merits.

818. ———. *The House of Intellect.* New York: Harper and Brothers, 1959. 276 p. (*Author:* Dean of the Graduate School, Columbia University.)

A treatise on the state of learning in modern society. "Our concern is not with intelligence but with Intellect, which is the form intelligence takes in the artificial products we call learning. As knowledge is to intelligence, so learning is to Intellect. Now if in the passage from intelligence to Intellect the faculty of thought is spoiled by some radical vice of form it follows that the tradition of learning—a continuity of principles, habits, and beliefs—is also radically distorted." Discovers such distortion, and discusses its manifestations, in our public opinion, our manners and conversation, our educational practice (including practice in graduate education, in chapter 5, "Instruction Without Authority"), in the misuse of funds for scholarship by foundations, businesses, and the Federal Government, and in the jargon of scholars and pedants.

819. Benjamin, A. Cornelius. The Ethics of Scholarship. *Journal of Higher Education* 31:471–80, December 1960. (*Author:* Professor of Philosophy, University of Missouri.)

Examines two questions: (1) What may happen to scholarship when it is employed as an instrument for the attainment of certain noncognitive values (e.g., "applied research") ? (2) Whether scholarship itself has an ethics, and, if so, what problems arise in its application.

820. Benton, William. The Scholar and Public Policy. *School and Society* 87:60–63, Feb. 14, 1959. (*Author:* Chairman of the Board, Encyclopaedia Britannica.)

Honors Day address at the University of Connecticut, calling for "the quality of vision which comes from a fusion of scholalrship with politics in the highest Aristotelian sense."

821. Boas, George. Problems of the Humanities. *Journal of General Education* 10:205–16, October 1957. (*Author:* Professor, History of Philosophy, Johns Hopkins University.)

Argues that no science or discipline is "so remote from human affairs as not to have its effect upon the humanities." Pleads for broadening of interests among scholars in the humanities.

822. BUTTON, DANIEL E. Retirement Practices in State Universities. *American Association of University Professors Bulletin* 43:492–97, September 1957. (*Author:* Assistant to the President, State University of New York.)

Reports findings of a survey of retirement practices conducted in the fall of 1956 under the auspices of the National Association of State Universities. Covers 14 points: normal age of retirement, provisions for exceptions, recent or prospective changes of policy, pension practices, workload of persons past normal retirement age, employment of retired persons, flexible or inflexible policies, teaching effectiveness of retired persons, and so forth.

823. CAPLOW, THEODORE, *and* MCGEE, REECE J. *The Academic Marketplace.* New York: Basic Books, Inc. 1958. 262 p. (*Authors:* (1) Professor of Sociology, University of Minnesota; (2) Assistant Professor of Sociology, University of Texas.)

A study of the faculty vacancy-and-replacement process in the arts and sciences departments of 10 major universities during 1954–55 and 1955–56. Based on personal interviews with the chairman of each department in which a vacancy occurred and with one other departmental faculty member closest in rank and age to the man who left. Interviews were obtained concerning 215 of a total of 237 vacancies reported. Chapters deal with these subjects: How the Vacancies Occur, How Performance Is Evaluated, The Strategy of the Department, Procedures of Recruitment, Patterns of Choice, Selecting the Replacement, Academic Government and the Personnel Process, and Current Trends in the Marketplace.

824. CLARK, EDWARD F. The Role of the Faculty in Academic Policy Formation *National Catholic Education Association Bulletin* 54:155–56, August 1957. (*Author:* Academic Vice President, Fordham University.)

"Continued, active faculty membership on some university policy committees is at best of a questionable value to the institution. And the question is not on the basis of whether they could make a committee contribution, but whether the necessary interference with their instructional, research, and publication contributions is too great a price for the institution and themselves to pay."

825. COLLEGE AND UNIVERSITY PERSONNEL ASSOCIATION. *Personnel Practices in Colleges and Universities (Faculty and Staff) 1958: A Survey.* Champaign, Illinois: The Association, 809 South Wright St., 1958. 171 p.

Presents data gathered in a questionnaire survey of member institutions of the College and University Personnel Association and of several nonmembers. Part I reports personnel policies and practices for nonacademic staff; Part II (p. 113–61) reports faculty personnel policies and practices in 124 institutions. The latter part presents statistical summaries of such matters as educational requirements, employment restrictions and procedures, tenure, promotion, separation, outside employment and compensation for research, salaries, orientation programs, and employee benefits.

826. Conference on the Measurement of Faculty Work Load. *Faculty Work Load: A Conference Report.* Edited by Kevin Bunnell. Washington: American Council on Education, 1960. 99 p.

Report of a conference on the measurement of faculty work load. The following papers were presented: Assumptions Underlying Present Ways of Measuring Faculty Load; Problems of Defining Faculty Load; Methods of Analyzing, Expressing, and Reporting Faculty Load Data; The Use of Faculty Load Data in Interinstitutional Analysis; The Uses and Abuses of Faculty Load Data; The Dynamics of Faculty Load Studies; and Working Material and Bibliography on Faculty Load. Bibliography: 92 titles.

827. DE KIEWIET, CORNELIS W. The Necessary Price of Leadership. *Educational Record* 39:235–45, July 1958. (*Author:* President, University of Rochester.)

Argues the great social importance of "the few thousand men who staff [our] universities," and decries the pinch-penny "internal academic deficit" which universities have had to accept "in order to protect an outward fiscal balance." Discusses the responsibility of industry and commerce for the support of universities.

828. ECKERT, RUTH E. The Share of the Teaching Faculty in University Policy-Making. *American Association of University Professors Bulletin* 45: 346–51, September 1959. (*Author:* Professor of Higher Education, University of Minnesota.)

"Although a faculty senate of some type is usually given general legislative authority over educational matters, the task of exploring issues and of developing appropriate policy statements is typically carried on in smaller groups. The constitution of such committees at one major university (Minnesota) was recently studied by the local AAUP Committee on Faculty-Administrative Relationships, with a view to finding out more about the role that the teaching staff was taking in the government of the institution." Finds that the teaching faculty, particularly in the junior ranks, "have been accorded a rather minor role in studying all-University problems."

829. Florida State University. Office of Educational Research and Service. *A Survey of Sabbatical Leave Policies and Practices in State Universities and Land-Grant Institutions: 1957–58.* Tallahassee, Fla.: The Office, 1958. 31 p. (Processed.)

A report of the findings of a survey of sabbatical leave programs in 71 major State universities and land-grant institutions, of which 45 had such programs and 26 did not. Descriptions of the individual programs are appended.

830. Glass, Bentley. The Academic Scientist: 1940–1960. *American Association of University Professors Bulletin* 46:149–55, Summer 1960. (*Author:* Professor of Biology, The Johns Hopkins University, and Chairman, Biological Sciences Curriculum Study of the American Institute of Biological Sciences.)

Random but penetrating commentary upon the growing relative importance of science and the scientist in the academic scene, of Federal support for science, and, in consequence, of the demands of public service upon the academic scientist's time and attention. Expresses optimism about future supply of academic scientists, expecting them to amount to fully half of the entire college and university teaching force within a decade.

831. Grantham, Dewey W., Jr. A Community of Scholars. *American Association of University Professors Bulletin* 46:388, Winter 1960. (*Author:* Associate Professor of History, Vanderbilt University.)

Describes the hospitality and helpfulness encountered among 20 or 30 colleges and universities visited during a year of traveling and research. "My experience bears testimony to the vitality, the intellectual curiosity, and the humanistic tradition that are still present on the American college campus."

832. Guthrie, Edwin R. *The State University: Its Function and Its Future.* Seattle: University of Washington, 1959. vii, 66 p. (*Author:* Former Dean of the Graduate School and Director of Personnel, University of Washington.)

A discussion of a number of topics related to higher education in State universities, particularly expressing concern about university teaching and research. The sections are entitled (1) The State University, (2) Faculties and Administration, (3) The Psychology of Teaching, (4) University Teaching and Academic Freedom, (5) The New Students, and (6) Faculty Tenure and Advancement.

833. Hart, James D. Search and Research: The Librarian and the Scholar. *College and Research Libraries* 19:365–74, September 1958. (*Author:* Vice Chancellor, University of California, Berkeley.)

Discusses the scholar's need of the services of the reference librarian, and recounts a cooperative search by the author, a librarian, and a graduate student for the manuscripts and personal library books of the novelist, Frank Norris.

834. Hawk, Ray. A Solution to Academic Frustration. *Liberal Education* 45:369–72, October 1959. (*Author:* Dean of Men, University of Oregon, and Fellow of the University of Michigan Center for the Study of Higher Education.)

Describes the experiences of the five 1958–59 postdoctoral fellows at the University of Michigan Center for the Study of Higher Education, and argues that postdoctoral fellowships for young faculty members would be beneficial in all academic areas.

835. Heimberger, Frederic W. The Scholar's Time: How It Is Best Used. *North Central Association Quarterly* 31:240–48, January 1957. (*Author:* Professor of Political Science, Ohio State University.)

"In summary, the colleges and universities of America are now being overwhelmed by requests and even demands for the most precious thing they possess—the time of their scholars. . . . Our effort must always be to see that their talents are used to the best possible effect. And that effect should be measured over a generation, not over days and weeks." Urges the need for vigilance in preserving the primacy of teaching, balance in scholarly activity, and university autonomy. Discusses in particular the demands for contract research and extended or continuing education.

836. JONES, HOWARD MUMFORD. *One Great Society: Humane Learning in the United States.* New York: Harcourt, Brace and Co., 1959. 241 p. (*Author:* Professor of English, Harvard University.)

A statement prepared under the auspices of the American Council of Learned Societies with the assistance of its Committee on the Humanities concerning the current status of learning and the education of scholars in the humanities. See especially chapters 6, The Nature of Humanistic Scholarship; 11, How Scholars Are Trained, a discussion of graduate study in the humanities; and 12, Needs, a discussion of financial support for humanistic scholarship.

837. KIRKPATRICK, PAUL. On Colleagues and Clients. *American Journal of Physics* 27:390–96, September 1959. Same, adapted. *Phi Delta Kappan* 41: 254–59, March 1960; Same, condensed. *Journal of Higher Education* 31:413–21, November 1960. (*Author:* Professor of Physics, Stanford University.)

Argues that the two activities of instruction and research "are in necessary conflict in any department which thus seeks to serve two masters," and that "it is high time to swing the protective tariff back from the researchers to the teacher as teacher." Urges renewed concern for undergraduate teaching in the university, and advocates diminishing the use of graduate teaching assistants in the sciences.

838. KLAW, SPENCER. The Affluent Professors. *Reporter* 22:16–25, June 23, 1960; Discussion. 23:10–11, Aug. 4; 12–13, Sept. 1, 1960. (*Author:* Freelance writer.)

A discussion of the effects of the expanding support of research, both upon professors themselves and upon their colleges and universities. "Academic life these days is undergoing a striking transformation. The university professor, like the university at which he professes, is being subjected to new pressures and faced with new temptations. The walls of the ivory tower have been shattered—with often bewildering consequences for both the world outside and the scientists and scholars within." Replies include letters from Seymour E. Harris, Howard Mumford Jones, and McGeorge Bundy.

839. LIGHTFOOT, ROBERT M., JR. They "never would be missed!" *Journal of Higher Education* 31:88–92, February 1960; Same, condensed *Education Digest* 25:32–34, April 1960. (*Author:* Director of the Library, Bradley University.)

Lists and describes 21 types of "annoying people," chiefly faculty members, "who, often with the best of intentions, contrive all too frequently to make life miserable for those who try to run academic libraries with some measure of efficiency."

840. LONGENECKER, HERBERT E. *University Faculty Compensation Policies and Practices in the U.S.* A Study for the Association of American Universities. Urbana: University of Illinois Press, 1956. xii, 271 p. (*Author:* Vice President in Charge of the Chicago Professional Colleges, University of Illinois.)

Report of a study of policies, practices and problems related to the employment of faculty members outside the university, financed by the Carnegie Corporation. The study represents the result of discussion with hundreds of men and women in higher education, business, industry, foundations and government, and visits to more than 24 institutions. An extensive appendix (71 pages) gives detailed statements of policies and practices at 25 leading universities affecing supplemental compensation of university faculty members.

841. MCELHANEY, JAMES HAROLD. *Attitudes of Selected Professors at The Ohio State University Regarding Their Work Loads.* Doctoral dissertation (Ph.D.). Columbus: The Ohio State University, 1959. 389 p.; Abstract in *Dissertation Abstracts* 20, No. 9:3600.

An interview and questionnaire study of the attitudes and opinions of 60 full professors from as many departments regarding their own work loads and faculty work load in general. Findings include the following: "Most professors found work with graduate students especially time-consuming. Eighty percent thought graduate classes should be smaller than undergraduate. The majority felt the solution to growing enrollments would be increased staff, especially at the lower ranks, plus more graduate assistants and clerical help."

842. MACIVER, ROBERT M. *Academic Freedom in Our Time.* New York: Columbia University Press, 1955. 329 p. (*Author:* Professor Emeritus of Political Philosophy and Sociology, Columbia University.)

Second volume of the Columbia University American Academic Freedom Project. In five parts: (1) The Climate of Opinion (3 chapters); (2) Academic Government and Academic Freedom (6 chapters); (3) The Lines of Attack on Academic Freedom (2 chapters); (4) The Student and the Teacher (2 chapters); and (5) The University and the Social Order (3 chapters). Two appendixes: (1) Academic Freedom and the Denominational University and (2) The University of Colorado Investigates. Bibliography: 306 titles, classified by topic. (For first volume, by R. Hofstadter and W. P. Metzger, *see* No. 18.)

843. MONTGOMERY, HENRY C. Publish and Teach. *Educational Record* 41: 296–99, October 1960. (*Author:* Chairman, Department of Classics, Miami University, Ohio.)

Argues the merits of research and scholarly productivity in humanistic fields, and demonstrates "the great debt that must be recorded for those meticulous and tireless researchers and producers of published works . . . who seemed, incidentally, to be compiling material as a contribution to pure, and apparently useless, research."

844. MOSSNER, ERNEST CAMPBELL. The Scholar-Teacher: His Faith and Problems. *Graduate Journal* 2:262–68, fall 1959. (*Author:* Professor of English and Chairman of the Committee on Graduate Studies, University of Texas.)

Distinguishes the "Scholar-Teacher" from the "Learned Teacher." The Scholar-Teacher deals with advanced and graduate students in small seminars and his proper habitat is the university. Goes on to discuss six material provisions and incentives necessary for the advancement of scholarship: (1) Concentration of books and materials of research at the university, (2) an adequate salary with a higher ceiling, (3) freedom from excessive administrative duties, (4) freedom from pressure to publish prematurely, (5) regular sabbaticals, (6) a light teaching load.

845. NEWBURN, HARRY K. *Faculty Personnel Policies in State Universities.* Missoula: Montana State University, 1959. 160 p. (*Author:* President, Montana State University.)

Report of a series of personal interviews at 11 State universities inquiring into the personnel policies being followed "in connection with recruitment, appointment, promotion, tenure and salary provisions, provisions for faculty welfare, retirement and separation from the university, as they relate to the professional staff." Personnel in all units on the main university campuses were included, with the exception of those in medicine, veterinary medicine, and dentistry.

846. OLIVER, WILLIAM W. Sabbatical Leave Travel Expenses and the Federal Income Tax. *American Association of University Professors Bulletin* 43:507–11, September 1957. (*Author:* Assistant Professor of Law, Indiana University.)

Discusses some recent cases involving Internal Revenue Service ruling concerning tax deductions of sabbatical leave travel expenses. It is the author's opinion, based upon the present law and regulations, "that sabbatical leave travel expenses are properly deductible by a college or universtiy teacher when the leave is granted and utilized to carry out research related to his field."

847. PERKINS, JOHN A. *Plain Talk from a Campus.* Newark, Del.: University of Delaware Press, 1959. 195 p. (*Author:* President, University of Delaware.)

The book divides itself into four parts corresponding to these broad topics: general considerations of the high school and college, the financing of the same, public service and its relation to higher education, and, lastly, the future of higher education and its leadership. See especially chapters 11, A Primer for College Administrators; 12, Research and Publishing in the Universities; and 14, Inside Our Campus, which contains a potpourri of items of relevance to graduate education.

848. PLOCHMANN, GEORGE K. The Three Layers of Research. *Journal of General Education* 12:170–75, July 1959. (*Author:* Associate Professor of Philosophy, Southern Illinois University.)

"Vast sums have been spent by universities and by governments and industries, too, on research of all sorts and conditions. As regards the universities, at any rate, there is an assumption, not always fully worked out, that these expenditures will somehow carry over into the processes of instruction; that the better the research, the better the teaching. . . . I shall endeavor to study the problem with the double hope that I can clarify the general proposition a little and at the same time, show what grains of truth lie in it."

849. Rein, David M. Publishing Research. *College English* 20:295–97, March 1959. (*Author:* Associate Professor of English, Case Institute of Technology.)

Points out the discouraging prospects for the literary scholar in publishing his research in the journals available to him. Contrasts ratio between publilshing opportunities and scholars in the field of English literature with the same ratio in mathematics, finding that mathematicians have roughly four times as many opportunities per year.

850. Sherrill, Mary L. Group Research in a Small Department. *Journal of Chemical Education* 34:466, 468, September 1957. (*Author:* Former Head, Department of Chemistry, Mt. Holyoke College.)

Reminiscent discussion of the problems and the teaching value of group research in a college department of chemistry.

851. Shryock, Richard H. *The University of Pennsylvania Faculty: A Study in American Higher Education.* Philadelphia: University of Pennsylvania Press, 1959. 259 p. (*Author:* Director, Institute of the History of Medicine, The Johns Hopkins University.)

A study of American university faculties and their problems in general, and of the faculty of the University of Pennsylvania in particular. Focuses upon the college and graduate school of arts and sciences, referring to professional schools only incidentally. Thirteen chapters: (1) "American Higher Education: Problems and Policies," including a discussion of the relationship between graduate and undergraduate colleges and of the role of the faculty in university government; (2) "Principles of a Faculty Program," which deals with the relationships of the faculty to the community, the trustees, the administrators, the students and alumni, and among itself; (3) "Reputation and Morale of the Pennsylvania Faculties"; (4) "Recruitment"; (5) "Rank and Tenure"; (6) "Faculty Distribution"; (7) "Appointments and Promotions"; (8) "Suspensions and Dismissals"; (9) "Salaries and Fringe Benefits"; (10) "The Teaching Function," including a discussion of preparation for college teaching; (11) "Research and Other Creative Activities," including attention to the problems of financing research; (12) "Retirement"; and (13) "What of the Future?"

852. Tauber, Maurice F. The Scholar in the Library. *American Library Association Bulletin* 53:494–96, June 1959. (*Author:* Professor of Library Service, Columbia University School of Library Service.)

Briefly reviews several examples of scholarly explorations to show patterns which investigators use in gaining information from collections of material wherever located. Deplores lack of policy in acquiring manuscript collections.

853. Taylor, Richard R., Jr. *The American University as a Behavioral System.* Doctoral Dissertation (Ph.D.). Chapel Hill: University of North Carolina, 1958. 180 p.; Abstract in *Dissertation Abstracts* 19, No. 6:1468, Dec. 1958.

Studies 30 academic departments in five major Eastern and Midwestern universities by means of questionnaires submitted to all their members. Attempts to determine structural and behavioral factors associated with departmental excellence.

854. U.S. Department of Health, Education, and Welfare. *Higher Education Planning and Management Data, 1959–60: Salaries, Tuition and Fees, Room and Board.* By W. Robert Bokelman. U.S. Office of Education Circular No. 614. Washington: U.S. Government Printing Office, 1960. 104 p.

Third in a series of annual national surveys of salary, undergraduate tuition and fees, and room and board data. Salary data reported separately for deans and faculty members in colleges of law, theology, engineering, fine arts, social work, and "other graduate colleges," the latter category encompassing schools of library science, chiropody, optometry, osteopathy, forestry, and mining, and graduate colleges of public health, international studies, education, business, public administration and engineering. Salary rates are analyzed by faculty rank and by quartile mean levels within each rank. (*See* chapter 3, p. 42–46.)

855. Westbrook, J. H. Identifying Significant Research. *Science* 132:1229–34, October 28, 1960. (*Author:*

Affiliated with the General Electric Research Laboratory, Schenectady, New York.)

Explores the possibility of measuring the quality of the research done by individual laboratories and research workers by counting citations of the published reports of such research in a large enough sample of recognized professional journals. Confines present study to laboratories and to the field of ceramics, but believes the approach to be of more general applicability.

856. **White, Helen C.** The Scholar's Time: How It Is Best Used. *North Central Association Quarterly* 31:235–39, 246, January 1957. (*Author:* Professor of English, University of Wisconsin.)

Argues that "it is precisely because the university is the place in which to reach those of our countrymen best qualified to appreciate scholarship at an impressionable age that the scholar should be a real scholar without apology or compromise."

857. **Wilson, John Harold.** The Educator and the State University: The Abdication of Responsibility. *Journal of Higher Education* 31:237–43, May 1960. (*Author:* Professor of English, Ohio State University.)

"In brief, the faculties of most of our state universities have abdicated. They have given up their prime responsibility as educators, whose function it is to cultivate their students mentally and morally, and have dwindled into purveyors of a specialty. Academic ideals, policies, and problems they have turned over to university administrators, whom they tend to look upon with contempt."

858. **Worcester, D. A., Jr.** The University in the Free Economy. *Journal of Higher Education* 29:121–26, 175–76, March 1958. (*Author:* Associate Professor of Economics, University of Washington.)

Applies standard economic analysis to university education as an industry: "Just as market pressures and the necessity to economize are forcing, and will continue to force, different pay for comparable qualities of work and rank among various departments, so will duties (i.e., teaching, research, and community service) become specialized so as to make the most efficient use of the variety of talents to be found within the staff."

See also Nos. 22, 26, 43, 54, 64, 68, 69, 72, 77, 86, 87, 99, 102, 103, 107, 199, 204, 211, 215, 239, 246, 258, 259, 289, 310, 316, 323, 337, 366, 387, 399, 417, 424, 435, 436, 437, 442, 453, 462, 490, 491, 492, 513, 524, 543, 589, 648, 682, 685, 729, 731, 757, 764.

VI. Directories and Bibliographies

859. **AMERICAN COUNCIL ON EDUCATION.** *American Universities and Colleges.* Eighth edition. Edited by Mary Irwin. Washington: The Council, 1960. 1212 p.

"A catalog of 1,058 college catalogs," lists and describes all regionally accredited universities and 4-year colleges. For each institution, provides information about founding, calendar, admission and degree requirements, fees, departments and teaching staff (by rank), graduate offerings, distinctive programs, enrollment, foreign students, library, publications, finances, buildings and grounds, etc. A separate section on professional education includes essays on each of the major professions, written by members of the national accrediting agencies, and lists accredited schools and departments. An introductory section, Education in the United States, by Lloyd E. Blauch (Former Assistant Commissioner for Higher Education, U.S. Office of Education), provides a 73-page survey of higher education, including its development, administration and support, students and student services, programs (here including a discussion of graduate and professional programs, graduate degrees, and research, p. 42–50), accreditation, the Federal Government and higher education, and a chapter on the foreign student in the U.S. by Kenneth Holland (President of the Institute of International Education). An appendix presents eight tabular analyses of earned doctorates conferred by American colleges and universities, by year, sex, institution, subject, and general field.

360. **ASSOCIATION OF GRADUATE SCHOOLS.** Cumulative Index: 1900–1957. In *Journal of Proceedings and Addresses.* Ninth Annual Conference, 1957. p. 123–77.

An index to the *Proceedings and Addresses* of the first 58 conferences of the Association of American Universities and the first 9 conferences of the Association of Graduate Schools. Listed alphabetically are all scheduled speakers, topics of addresses, substantive committee reports, and subjects covered in addresses and reports. Numerous cross reference are included.

861. **BIGELOW, KARL W.,** *Comp. Selected Books for the College and University Administrator.* New York: Bureau of Publications, Teachers College, Columbia University, 1958. 26 p. (*Author:* Professor of Higher Education, Teachers College.)

An annotated bibliography of works chiefly relevant to undergraduate education and prepared primarily for the new college president. But "the breadth of topics covered clearly makes the list one that will prove useful not merely to new presidents but to many other college and university administrators as well." Topics include purposes and character of higher education, organization and administration, faculty, the instructional program, students, and others.

862. **BURCKEL, CHRISTIAN E.,** *ed. The College Blue Book.* 9th Edition. Baltimore: Universal Lithographers, Inc., 1959. 1168 p. (*Author:* Editor and Publisher of *The College Blue Book.*)

Lists every institution of higher education in the United States and, under the parent institution, every division, college, school, or department which is separately accredited, located, or administered, or unique in some other respect: 11,586 entries in all. Presents 59 points of information (e.g., location, president or dean, capacity, enrollment, student-faculty ratio, resources, entrance requirements, scholarships, costs) for each entry. Also provides the following information about all professional or special fields of education (including graduate education): list of institutions offering work in the area, circumstances of accreditation, list of professional organizations and honor societies (described in detail), and special publications. Also provides information about many miscellaneous aspects of higher education (e.g., Federal Government activities, State maps, descriptions of college towns, tests). Abundant cross-references.

863. **CATTELL, JAQUES,** *ed. American Men of Science: A Biographical Directory.* Ninth edition. 3 vols. New York: R. R. Bowker Co., 1955–56. vol. I, 2180 p.; vol. II, 1276 p.; vol. III, 762 p.

Provides biographical data, addresses, fields of interest, and professional society affiliations of approximately 95,000 American scientists. Names and information were contributed by scientific societies, universities and colleges, industrial laboratories, and individual scientists. Vol. I: *The Physical Sciences;* vol. II: *The Biological Sciences;* vol. III: *The Social and Behavorial Sciences.* (Tenth edition in process of publication: *see* No. 864.)

864. ———, *ed. American Men of Science: A Biographical Directory.* 10th edition. 5 vols. Vol. 1: *The Physical and Biological Sciences, A–E,* p. 1–1126; vol. 2: Same, *F–K,* p. 1127–2284; vols. 3–5 not yet published. Tempe, Ariz.: The Jaques Cattell Press, Inc., Annex 15, Arizona State University, 1960.

This new edition of the *Directory* is scheduled for completion in 1962. The first four volumes will contain biographies of approximately 96,000 physical and biological scientists. Volume five will contain biographies of approximately 24,000 social and behavioral scientists. *See* annotation of the ninth edition, No. 863.

865. ———, *ed. Directory of American Scholars.* Third edition. New York: R. R. Bowker Co., 1957. 836 p.

Provides biographical data, addresses, fields of interest, and professional society affiliations of scholars in the humanities, including historians.

866. Cook, Robert C., *and* McDuff, Marjie M. *Trustees, Presidents and Deans of American Colleges and Universities, 1958–59.* Nashville, Tenn.: Who's Who in American Education, Inc., 1958. 375 p. (*Authors:* (1) Editor, and (2) Associate Editor of the directory.)

"A continuation of three previously published biographical directories with almost the same name. Volume IV, or this latest volume, increases the scope to include college and university deans. . . . We have attempted to include the biographical sketches of all the heads of boards of control, all of the executive heads of the colleges and universities, and as many of the deans of these institutions as possible."

867. Cooper, Russell M., *and others.* The Educational Program. *Review of Educational Research* 30:334–50, October 1960. (*Author:* Dean, College of Liberal Arts, University of South Florida, Tampa.)

A review of research concerning higher educational programs since 1954. Contains a section by James H. Blessing on "Graduate and Professional Education," reviewing studies of graduate purposes and programs, graduate education as a national resource, and professional education.

868. Eells, Walter C. *College Teachers and College Teaching: An Annotated Bibliography.* Atlanta, Ga.: Southern Regional Education Board, 1957. 282 p.; *Supplement.* June, 1959. 134 p. (*Author:* Retired Professor of Education.)

Main volume covers 2,665 entries, arranged in 90 topical groups, covering the period 1945–1956, with author and other indexes. *Supplement* follows the same plan and organization, covering 1,103 entries for 1957 and 1958. See especially section II, "Recruitment and Selection" (entries 53–588 and 2699–2926).

869. ———. Journals Publishing Articles on College Teachers and College Teaching. *American Association of University Professors Bulletin* 43: 458–60, September 1957. (*Author:* See above.)

Lists 36 journals which published ten or more articles each between 1945 and 1956 on college teachers and college teaching.

870. ———, *and* Hollis, Ernest V. *Administration of Higher Education: An Annotated Bibliography.* U.S. Office of Education Bulletin 1960, No. 7. Washington: Government Printing Office, 1960. 410 p. (*Authors:* (1) See above; (2) Director, College and University Administration Branch, Division of Higher Education, U.S. Office of Education.)

Covers work published between 1950 and summer, 1959. 2,708 entries arranged in 12 major categories. See especially sections on Professional Schools (Nos. 511-546), Federal Relations (636–682), Regional Organizations (683–701), Graduate Programs and Professional School Programs (2172–2310), Sponsored Research (2571–2584). Index includes names of individuals, institutions, and organizations, and principal topics covered in the bibliography.

871. ——— *and* ———. *Student Financial Aid in Higher Education: An*

Annotated Bibliography. U.S. Office of Education Bulletin 1961, No. 3. Washington: U.S. Government Printing Office, 1960. 87 p. (*Authors:* See above.)

Contains 451 titles, most of which have appeared since 1955, listed under nine headings, including "fellowships," "assistantships," and "foreign study." Approximately 133 entries deal in whole or part with fellowships.

872. The Foundation Library Center. *The Foundation Directory.* Edition 1. Edited by Ann D. Walton and F. Emerson Andrews. New York: The Russell Sage Foundation, 1960. iv, 817 p.

A descriptive listing of 5,202 foundations, listed alphabetically by State, which indexes to fields of interest, trustees and officers, and foundations. For each foundation, includes the corporate name and address; the name of donor or donors; the general purpose and activities, together with any special limitations; the assets, expenditures, and grants for the most recent available year; and names of officers and trustees.

873. Gale Research Company. *Directory of University Research Bureaus and Institutes.* First edition. Detroit, Mich.: The Company, Book Tower, Detroit 26, 1960. 199 p.

"This book is intended to identify and describe the activities of the myriad [research] programs in American and Canadian institutions of higher learning and is designed to serve librarians, researchers, educators and government officials as a source of information on university sponsored research agencies." Lists and briefly describes bureaus by fields, with institutional and geographic indexes.

874. Hatch, Winslow, R., *ed. Reporter: Clearinghouse of Studies on Higher Education.* U.S. Office of Education Circular No. 562. Washington: U.S. Government Printing Office, 1959. 78 p. (*Author:* Research Coordinator, Division of Higher Education, U.S. Office of Education.)

A list of titles of "institutional" research (studies conducted or new programs embarked upon by an institution of higher education or an agency in its behalf) completed since 1950. Titles arranged and cross referenced under 24 categories, including "Graduate Education," "Professional and Technical Education; By Subject," "Research: Its Role in Higher Education," and "Faculty . . . Recruitment, etc." For inclusion, copies of studies must be available but not as yet widely circulated or well known. Appendix lists institutional representatives of the Clearinghouse, to whom inquires should be directed. (For second and third issues, see below.)

875. ——— *and* Bennet, Ann, *eds. Reporter: Clearinghouse of Studies on Higher Education.* U.S. Office of Education Circular No. 611, Washington: U.S. Government Printing Office, 1960. 55 p. (*Authors:* (1) See above; (2) Research Assistant, Division of Higher Education, U.S. Office of Education.)

Second issue, continuing listing of institutional research studies reported by Clearinghouse representatives. Studies are now annotated and a 25th category, "Regional Cooperation," is added.

876. ——— *and* ———. *Reporter: Clearinghouse of Studies on Higher Education.* U.S. Office of Education Circular No. 622. Washington: U.S. Government Printing Office, 1960. 89 p. (*Authors:* See above.)

Third issue. "Regional Cooperation" category dropped. Annotation continued.

877. National Catholic Welfare Conference. Department of Education. *The Official Guide to Catholic Educational Institutions in the United States, 1959.* New York: Publishers' Parish Service, 180 Varick St., New York 14, 1959. 462 p.

Annual directory of Catholic colleges and universities, secondary boarding schools, and seminaries and apostolic training houses. Includes directories of graduate programs (p. 119-28) and professional school programs (p. 129-45). For each program, provides information about faculty, admission requirements, enrollment, areas of specialization, costs and financial aid, degrees granted, and services provided.

878. National Science Foundation. *Bibliography on the Economic and Social Implications of Scientific Research and Development: A Selected and Annotated Edition.* NSF 59-41. Washington: U.S. Government Printing Office, 1959. 53 p.

An annotated compilation of 225 references representative of various approaches to the study of research and development. Not designed to be all-inclusive, but to serve as a guide for further investigation. In seven sections: (1) Nature, Philosophy, and History of Science and Technology; (2) Expenditure and Manpower Statistics; (3) Social and Institutional Framework of Science and Technology, and Public Policy; (4) Patents and Invention; (5) Industrial Research; (6) Economic and Social Implications; (7) Other Bibliographies.

879. PAULSEN, FRANK ROBERT. *Selected Bibliographies for Administrators in Higher Education.* Ann Arbor, Mich.: Center for the Study of Higher Education, University of Michigan, 1960. 31 p. (Processed.)

A list of over 400 publications organized under the following six headings: (1) Administrative Theory; (2) Administrative Skills; (3) College and University Administration; (4) Public School Administration; (5) Management and Public Administration; (6) General Works, History and Philosophy, Current Problems. Not annotated.

880. U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE, *Accredited Higher Institutions, 1956.* Compiled by Theresa B. Wilkins. U.S. Office of Education Bulletin 1957, No. 1. Washington: U.S. Government Printing Office, 1956. 109 p.

Lists of institutions of higher education accredited by regional, professional, and State accrediting agencies. Quadrennial publication.

881. ———. *Education Directory, 1959–60, Part 4: Education Associations.* Prepared by Bobbie Doud. Washington: U.S. Government Printing Office, 1960. 128 p.

Directory of international, national, regional, State, and professional education associations, and foundations which are primarily educational in purpose. Includes historical, learned, professional, research, and scientific associations, professional fraternities, and honor societies. For each association, gives headquarters address, name of director, name and address of secretary, and titles and frequency of issue of official periodic publications.

882. ———. *Education Directory, 1959–60, Part 3: Higher Education.* Prepared by Theresa Birch Wilkins. Washington: U.S. Government Printing Office, 1959. 205 p.

Annual national directory of institutions of higher education. Identifies institutions offering master's (or second professional) degrees and those offering Ph.D. or equivalent degrees. Lists officers of each institution, including deans or directors of graduate and professional schools.

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